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MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

DANGERS TO INTERNATIONAL AVIATION CO-OPERATION

See Page 2

VOL. LXXX No. 2084 [Registered at the G.P.O. as a newspaper] LONDON, MARCH 7, 1959 PRICE NINEPENCE

CURRENT TOPICS

Fabian Solution to the Roads Problem

FOR years an unsympathetic world has obstinately persisted in associating the Fabian Society, that shrine of all that is purest in Socialist philosophy, with slightly woolly thinking, on occasions a certain insufferable superiority even. It seems unlikely that the latest pamphlet from the Society, *What Shall We Do About the Roads?*, will cause them to revise their regrettable opinions. The Socialist thinker is as predictable in this field as in most things elsewhere and the conclusions reached run pretty close to form. "Whether we like it or not we are living in the automobile era and no one can turn the clock back . . . even revolutionary changes in (transport) policy could not be guaranteed . . . to give back the railways their old paramountcy," says the author, but, of course, he is fearful (as we would expect him to be) of unlimited expenditure on motorways. They only waste land, cause congestion at either end and become saturated after a period of years. Urban motorways—which in fact relieve the congestion at the terminations of motorways —are almost unthinkable extravagances. Are we doing the right thing, he asks. The answer, a little over-simplified maybe, is that we have so much leeway to make up that we dare not stop to think.

A Highways Authority?

THE pamphlet is certainly on firm ground in recognising the value of public transport as a surface carrier and in joining the growing pressure for a London traffic authority — London area local authorities surrendered 25 years ago their right to run public transport, or to say on what routes they should be operated, the time has perhaps come for a similar surrender over the lines of the roads themselves, much of the traffic on which is non-local. There is a sound case also for a national highways authority but why on earth should it be "perhaps on the pattern of British Railways, and within the Transport Commission"? "In day to day matters it would have independence of the Minister," it is suggested. Surely this rates something of a laugh. Has the author forgotten so soon that Government intervention in 1952 which forced London Transport to restore sub-standard fares? He fears a sometimes partisan approach to new road schemes by the Minister as the presently responsible authority—it needs a Fabian to impute more altruistic, altogether loftier, motives in a not entirely disinterested state board.

An Underground Showpiece

REBUILDING Underground stations is a luxury which London Transport just now simply cannot afford. The splendid, entirely new, booking hall and platform approaches at Notting Hill Gate (see page 13) come strictly within this department of expenditure and they owe their existence solely to the carrying through of the London County Council scheme for removing the chronic road bottleneck at this point and redevelopment of the area. Both Central and Circle Line station buildings had to come down. It is therefore primarily the relentless growth of car traffic which residents in this area can thank for their fine new station, with its easier booking facilities and platform access and vastly improved interchange arrangements. The total cost of the scheme is roundly £1 million, of which the approved L.C.C. contribution was £325,000. It can never show a commensurate return on the capital expended, but it is good for London that London Transport, whose structures (both fixed and moving) adorn the metropolitan scene, should have the chance to demonstrate anew its unerring good taste in the design of such facilities. The other important thing to be said about Notting Hill Gate is that it represents an all-out effort to minimise subsequent maintenance expenditure. Tiling in several cheery hues, plastics panelling on the escalator flights, glass and unpainted aluminium all have an important contribution to make in circumstances where the cost of maintenance—even supposing adequate staff were available—is steepening. Of course, London Transport has been employing the labour-saving approach in its stations for many years and in theory their maintenance in pristine condition should not be an insuperable task. In practice it is a severe problem, aggravated to some extent by the careless indifference of a polyglot public, certainly by atmospheric pollution and special factors such as water seepage in tunnel and passage roofs, and also by difficulties in arranging adequate maintenance facilities. Clearly this is an especially rewarding field for the exploitation of all the new materials and finishes which will retain their original condition indefinitely or at worst need only a mop or a rub over.

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Advocate of Steam

EVER and anon the redoubtable Lord Monkswell—now 83 years of age—rises in the House of Lords to champion the dying cause of the steam locomotive. That this deep and abiding affection is shared by many of his peers was evident in the debate which he initiated last week. On the other hand, they all seemed to realise that the battle is a losing one and that nothing now can stop the supersession of a machine which has figured so prominently—and so gallantly —in our daily lives over the last century and a quarter. How far had this supersession progressed, asked Lord Monkswell, and was the Government satisfied with the results so far achieved? He was filled with dismay at the lightheartedness with which Parliament had authorised the spending of £1,500 million upon an indeterminate system of rail transportation. The ensuing debate showed that quite a number of noble lords had been smitten with the schoolboy itch to drive a steam locomotive. Although, said the Marquis of Ailsa, he had never achieved this ambition he had worked in the motive power department of British Railways and had graduated as a special fireman. Lord Hurcomb, former chairman of the British Transport Commission, made the point that the diesel stage should be only an intermediate one in motive power development; he hoped it would not delay the full completion of an electric transport system which he believed to be best adapted to the circumstances of the country and the national economy—the best way of using our coal. Replying for the Government, the Earl of Gosford, Lord in Waiting, said that the modernisation plan was in top gear. Diesel locomotives were coming forward at a good pace and in some cases were being introduced faster, and in greater numbers, than was at one time thought possible; amongst other things, results of decentralising traffic organisation were proving encouraging. He also was an enthusiast of the steam engine and he would be sorry to see it disappear, but compared with diesel or electric traction it was wasteful of fuel and spent much of its working life in the running sheds. Similar regrets were no doubt expressed when steamships superseded sail and cars horse transport. One could not halt progress and it was certainly not the Government's intention to ask the Transport Commission to do so.

The A.E.R. Officers' Dinner

HAVING known the Army Emergency Reserve for over 30 years he had nothing but admiration for its keenness and enthusiasm, said Brigadier P. D. G. Buchanan at this year's dinner of the A.E.R. (Transportation) Officers' dinner. He was proposing "The Guests" and first thanked General Sir Cecil Sugden, Quartermaster-General to the Forces, who, although a guest, had taken on the job of presiding at the dinner in the unavoidable absence of their Colonel, General Sir Brian Robertson. Brigadier Buchanan, who is Commander, A.E.R. Units (Tn. and M.C.), recalled that last summer the railway units visited Longmoor for the first time as a railway group in six regional squadrons. The port regiments form a basic part of the port task forces and they camped at Marchwood as an integrated formation. Younger volunteers were coming forward, although not as many as they would like. No doubt with the cessation of National Service there would soon be a waiting list. The I.W.T. units had been based on the Thames, but it was hoped to spread to other ports such as Hull. They also had hopes of recruiting members of the Mobile Defence Corps. Training was being kept progressive and interesting, not to mention versatile. The Longmoor railway (described elsewhere in this issue) had served for film scenes ostensibly in such countries as China, India and Russia. The Hon. Hugh Fraser, Parliamentary Under-Secretary of State for War, said that being a tribal Scotsman he understood the tribal traditions of the Sappers—they had, for example, not only an Engineer-in-Chief but a Chief Royal Engineer. He expressed apologies for the Secretary of State for War, for whom he was a substitute, owing to the exigencies of the work on the Army Estimates. In the nuclear age it was still true that this country must build an army second to none and, for its size, the best in the world, based on an all-regular force. The 180,000 man army was near and more were available if needed. After finding the men it was necessary to see not only that the men were well equipped, but superbly well equipped. The role of the A.E.R. and the Units so skilfully created over the last 30 years was vital to such an army. The band of the Corps of Royal Engineers provided music during dinner and afterwards there were two remarkable performances—one on the bassoon and the other the "Post Horn Gallop" rendered in magnificent style.

Diversification Has Paid Leyland

IN his annual statement to shareholders of Leyland Motors, Limited, Sir Henry Spurrier, the chairman, said that despite difficulties and delays the company still held the Hispano-Suiza contract for 2,800 tracked vehicles, in which Leyland had co-operated with some necessary redesign and development; the resultant vehicles had been sent to Germany for approval. With regard to overseas business, Sir Henry declared that the problems were capable of adjusting themselves to the company's advantage or disadvantage at short notice. He felt that the policy of establishing local assembly or manufacturing plants abroad was a right one to pursue. The whole of the company's future in overseas markets would depend on just how far they were able to expand in that direction. Members need not fear that in establishing manufacture about the world, the home plants would be denuded of their present volume of production. Very seldom could manufacture overseas be achieved 100 per cent; it was often nearer 50 per cent; the balance was made up from home. The process required a steady adjustment in the home factories to meet the needs for the greater quantities of those parts retained and the correspondingly less numbers of parts that are more readily produced abroad. During the past financial year the company had contended with the most difficult conditions of trading since the end of the war, but the policy of diversification pursued during the past few years stood the group in good stead. It enabled the Leyland Group to maintain its turnover at almost last year's record figure. It showed a profit that, although only slightly lower, had absorbed two wage awards with no compensating increase in selling prices of the products, said Sir Henry.

The Provision of Airports

STANDING in for the Minister of Transport at the dinner last week of the Aerodrome Owners' Association, the Joint Parliamentary Secretary, Mr. John Hay, devoted much of his speech to the Ministry's policy on aerodrome management. The Ministry view was that running airports was something for which local management, with its knowledge of local conditions, was better equipped than Whitehall. The Government was seeking to decentralise where it could and this was part of that general movement. If operating airports was a business, it could be a very expensive one, but the official intention was that they must eventually pay their way. That was the reason for the recent proposal to increase landing fees and passenger service charges—Mr. Hay did not, however, explain why these proposals came at such short notice with their introduction envisaged for a time in the year best calculated to cause difficulties for the operators.

Losses Cannot Continue

THIS unwillingness to continue losing money on airports was the reason for the Government's inability to accept the scheme put forward by the Association for grants to airfields not owned by the State. Although the loss would have been smaller, that scheme had assumed readiness to continue indefinitely losing money on airport account. He went on to refer to the needs of private and club flying and gliding, particularly at a time when the abandonment of aerodromes was making it difficult for clubs to find accommodation, but here also he did not explain why private flyers at any rate can use large civil airports in many countries whereas in Britain they are anathema at London Airport, to take but one example. It is true that private owners receive special treatment, but it is far easier to justify expenditure if full use is made of facilities and in that regard Britain compares ill with many lands.

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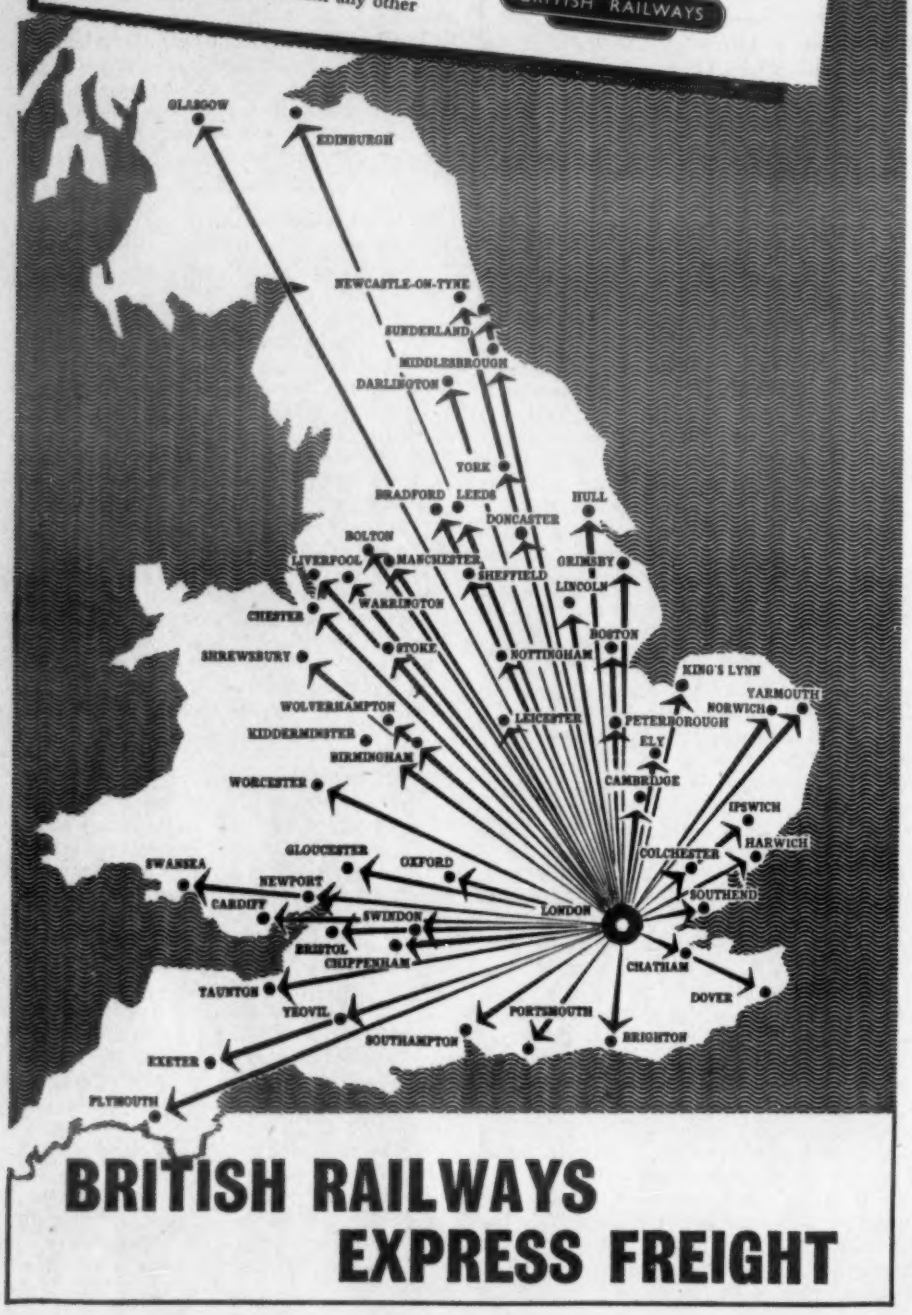
BRITISH RAILWAYS



BRITISH RAILWAYS
EXPRESS FREIGHT

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Dangers to International Air Co-operation

LAST week saw two agreements concerning international aviation which have somewhat ominous implications even if it was desirable to produce at least a degree of concord. The International Air Transport Association was directly concerned in that relating to fares on services operated by jet aircraft and contributed a memorandum to a committee meeting of the International Civil Aviation Organisation which decided to adopt as a standard navigational aid the V.O.R.-D.M.E.T. system advocated by the United States. The agreement on jet fares was reached some five months after the traffic conferences at Cannes failed to produce the normal schedule of fares and other charges for submission to governments for approval for 1959-60. Operators with jet aircraft and those expecting to receive them shortly were strongly opposed to any idea of increased fares for travel in that type of aircraft, whereas those airlines with no immediate prospect of operating such machines were equally fervent in their support of a surcharge. In the upshot it is only on the trans-atlantic routes and on those between North and South America, when they begin in a few months' time, that there will be a surcharge. Passengers will fly on other jet-operated services at ordinary fares both within Europe and to Africa and the Far East. Since some airline publicity has tended to confuse the definition of a jet aircraft, it is as well to add at this stage that turboprop machines are not affected.

A Wrong Basis

THIS surcharge is a very dubious measure in that it is not universally applicable. If it were argued that there should be a small supplement payable for travelling on the fastest service and this applied in all cases, there would be few grounds for complaint at the airlines following what has long been a normal transport practice. In Europe there is a number of instances in countries such as France and Germany of supplementary fares being payable for travel on the fastest trains; indeed, it is not unknown in connection with high-speed trains in Britain. As it is, the Atlantic flights are singled out for special treatment not only as regards these surcharges but also for a small general increase in all fares. The latter alterations have, however, some parallels in other areas and the upward adjustments are stated to be intended to meet higher operating costs. Nobody would deny that there has been a rise in costs, but there has been a reduction in the load factor of most operators and it is necessary to consider whether, in these circumstances, the moment is well-judged for a rise in fares. It is true that the increases are small, but in many it is the principle rather than the amount that is likely to antagonise actual and potential patrons. In one respect, at any rate, the I.A.T.A. traffic conferences have displayed a constructive approach by agreeing to the introduction in Europe of reduced rates for creative and inclusive tour facilities. This should assist the airlines to increase the utilisation of their aircraft, but may not be so welcome to the independent operators already providing inclusive tour services.

Unscrupulous Pressure

IF I.A.T.A. has scraped by with the agreement on fares, it ought, as the body responsible for safeguarding the interests of the airlines, to be thoroughly ashamed of itself for its part in the Montreal discussions on navigational aids. The British Government supported strongly the claims of the Decca Navigator as being the aid best suited to make more efficient use of air space on busy international routes; a memorandum submitted by the International Federation of Airline Pilots Associations called for "an accurate and reliable short-range navigation aid based on area covered systems and designed to provide a pictorial presentation to pilot in the cockpit." That, of course, is what the Decca system is able to provide through the flight log. The United States supported the V.O.R. (very high frequency omni-directional range) system which is, admittedly, widely installed, complemented by the D.M.E.T. (distance measuring equipment). This does nothing like as much as the Decca to give the pilot a pictorial presentation of his whereabouts yet I.A.T.A. found itself able placidly to present a report favouring the V.O.R.-D.M.E.T. set up. Apart from the honest, if misguided, backing given by various parties to this system, there was also a good deal of American pressure which can only be described as unscrupulous; especially as it included the presentation of a report on the Decca system containing unfavourable criticisms that were later shown to be exaggerated. It is unfortunately necessary to consider this as yet another example of a tendency that has been apparent too frequently of late. That is the enthusiasm of the United States for increasing export trade throughout the world provided that it does not have to do any importing itself. How else can be explained the extraordinary situation where the Decca Navigator chain installed for experimental aviation purposes in the New York area may not be used by shipping at the express behest of the U.S. Coastguard?

International Co-operation Endangered

THE importance of international transport has never been greater than it is today and the speed at which it works has a great influence upon the economy and efficiency of its operation whether air or sea transport is involved. The value of any equipment which can aid in the achievement of this result is patent and the time has passed when the warped ideas on security and its concomitants which exist across the Atlantic should carry weight. In the field of aviation both the fares decision and that on navigational aids are dangerous as tending to throw the principles of international collaboration into disrepute. I.A.T.A. could well be heading for trouble and, disastrous as a fares war would almost certainly be, the point could be reached where this was preferred to the vagaries which have developed in the present method of fares control. The International Civil Aviation Organisation has achieved some useful objects, but it is not encouraging to find it so ready to compromise on matters of principle and so ready to endure such blatant dangers as the inefficiency of air traffic control in Italy—a matter which has been the subject of complaint among flight crews for years. From such fundamental criticisms it is not far to go to the position where international dissatisfaction might lead to the break-up of what have been unquestionably most valuable institutions.

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Forthcoming Events

March 7.—Railway Correspondence and Travel Society (London). Annual general meeting. At Railway Clearing House, Eversholt Street, N.W.1. 6.30 p.m.

Stephenson Locomotive Society (Scottish). Paper by Mr. O. S. Nock, "The Part to be Played by Signalling in the British Railways Modernisation Plan." At 302 Buchanan Street, Glasgow. 2.30. p.m.

March 9.—Institute of Transport. Paper by Mr. D. Blee, "The Future of British Railways." At 66 Portland Place, W.1. 5.45 p.m.

March 10.—Institute of Transport (North Staffordshire). Annual general meeting. At Grand Hotel, Hanley. 6.30 p.m.

Industrial Transport Association. Annual general meeting and discussion. At Caxton Hall, S.W.1. 6.30 p.m.

Permanent Way Institution (York). Paper by Mr. P. Chalmers, "Long Welded Rail Track Renewal in the North East Region." At Railway Institute, York. 6.45 p.m.

Institute of Road Transport Engineers (Midlands). Paper by Mr. H. L. Parrish, "Development and Application of the Four-99 Diesel Engine." At Exchange and Engineering Centre, Birmingham. 7.30 p.m.

Institute of Traffic Administration (Southampton). Paper by Mr. H. J. Judd, "Road Vehicles for the Oil Industry." At Royal Hotel, Southampton. 7.30 p.m.

March 11.—Institute of Transport (Southern Region). Paper by Mr. W. M. Smith, "A Trader's View on Transport." At Harbour Board Offices, Town Quay, Southampton. 5.45 p.m.

B.R. (Southern Region) Lecture and Debating Society. Paper by Mr. L. B. Alexander, "Modern Rolling Stock." At Chapter House, St. Thomas Street, S.E.1. 5.45 p.m.

Institution of Railway Signal Engineers. Paper by Messrs. C. R. Cass and J. Sagues, "The Application of Ferrite Cores to Railway Signalling Systems." At Institution of Electrical Engineers, Savoy Place, W.C.2. 6 p.m.

Permanent Way Institution (London). Paper by Mr. J. Dobson, "This Costs Money." At 222 Marylebone Road, N.W.1. 6.30 p.m.

Light Railway Transport League. Four short papers. At 158 Drummond Street, N.W.1. 7 p.m.

Institute of Road Transport Engineers (East Midlands). Paper by Mr. R. Cox, "Trends in Modern Road Passenger Transport." At Mechanics Institute, Nottingham. 7.30 p.m.

Institute of Road Transport Engineers (Southern). Paper by Mr. P. Bullock, "The 'N'-type Injection Pump and Hydraulic Governor." At Polygon Hotel, Southampton. 7.30 p.m.

March 12.—Institute of Transport (East Midland). Paper by Mr. N. H. Dean, "The P.S.V. Barometer." At Franklin's Garden Hotel, Northampton. 1 p.m.

Institute of Transport (South Western). Paper by Mr. G. W. Pitt. "Management of Air Services." At Great Western Hotel, Exeter. 12.30 p.m.

L.M.R. Lecture and Debating Society. Paper by Sir Brian Robertson, "Railways—Their Past and Their Responsibilities." At Clerical Staff Dining Club, Cardington Street, N.W.1. 5.45 p.m.

Railway Students Association. Paper by Dr. F. Q. den Hollander, "Co-operation between European Railways." At London School of Economics, Houghton Street, W.C.2. 6.15 p.m.

Institute of Road Transport Engineers (South Wales). Paper by Mr. A. C. Higgins, "Design and Construction of Routemaster Bus." At South Wales Institute of Engineers, Park Place, Cardiff. 7 p.m.

March 13.—Institute of Transport (Southern). Annual dinner and visit of the president. At Grand Hotel, Lyndhurst. 7.45 p.m.

Railway Correspondence and Travel Society (London). Paper by Dr. P. Ransome Wallis, "Some Interesting Continental Locomotives." At Railway Clearing House, Eversholt Street, N.W.1. 7.15 p.m.

Institution of Highway Engineers (Scottish). Paper by Mr. W. Boyd, "Highway Bridges and Construction and a 204-ton Load." At North British Hotel, Princes Street, Edinburgh.

Stephenson Locomotive Society (North Eastern). Paper by Mr. J. B. Hollingsworth, "Narrow-Gauge Railways at Home and Abroad." At North Gas Board Showrooms, 30 Granger Street, Newcastle upon Tyne, 1. 7.30 p.m.

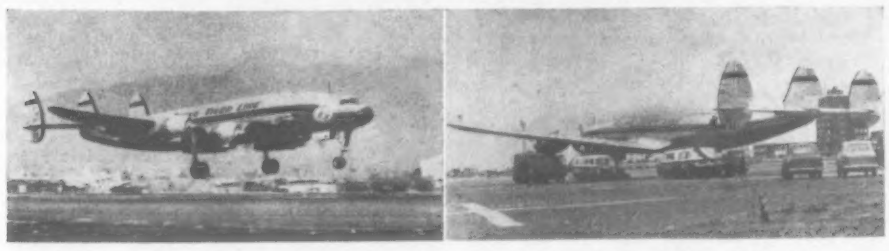
Institute of Road Transport Engineers (South Western). Paper by Mr. V. E. Gough, "Air Suspension." At Rougemont Hotel, Exeter. 7.30 p.m.

THE FLYING TIGERS

Substantial All-Freight Carrier

By a Special Correspondent

IN the middle of last October, the Flying Tiger Line introduced the first overnight, non-stop, coast-to-coast, all-cargo flights in the United States, with a seven-days-a-week service between California and New York. The company thus entered on its tenth year of licensed air freight operations with a new conception of service in keeping with its position as a large all-freight airline. Success stories arrive, with monotonous regularity, from across the Atlantic but there is much of interest in the way in which the sporadic tramping operations of a decade ago have been converted into America's only certificated, scheduled, trans-continental, all-cargo airline.



A Lockheed Super-H Constellation of the Flying Tiger Line taking off from Burbank and, right, another at London Airport

It is said that the first air freight shipment in American history took place when a Cleveland haberdasher chartered a plane, climbed in beside the pilot, and flew a collection of neckties to Detroit, some 90 miles away. That was in 1910—just 35 years before the Flying Tiger enterprise was formed. In the intervening years most traffic continued to be hauled by the slower wheel and keel methods. There were, it is true, isolated attempts to fly solely freight on a commercial basis, but all fell by the wayside leaving tragic financial memories.

Results of Wartime Experience

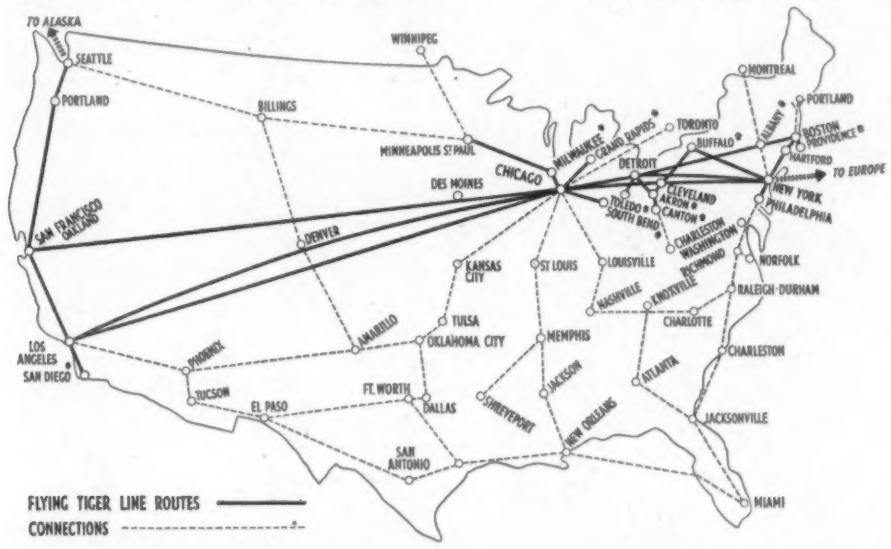
It really took the 1939-45 war to show the possibilities of the movement by air of substantial loads. Particularly was this so on the hazardous supply routes between India and China over the "Hump." Among the United States pilots who were responsible for much of this flying was Robert W. Prescott, a former Navy flight instructor who had gone to the Far East in 1941 as a member of General Chennault's American Volunteer Group, later to become famous as the "Flying Tigers."

At the end of the war Prescott returned to the United States and, while searching for an outlet for his flying experience, met Samuel B. Mosher, head of one of the great oil-producing companies, Signal Oil and Gas Company. Out of this meeting came the formation of the Flying Tiger Line in June, 1945, as an all-freight and contract airline. Mosher became board chairman and Prescott president, positions which each still holds today.

Start of Operations

With the help of some of his former flying colleagues and a few business men Prescott was able to raise enough money to buy 14 war-surplus Budd Conestogas. With the money and aircraft lined up in Washington, Prescott set out with one machine for Long Beach, in California, to start his airline flying. Shippers were, however, cautious—so cautious, in fact, that many weeks passed before a Bakersfield produce shipper suddenly telephoned to ask if Prescott could fly four tons of fresh grapes to Atlanta, in Georgia. The fact that this first Flying Tiger shipment was met on arrival by an enterprising merchant with a sign reading "By special plane they come to you, still fresh with California dew" (poor scanning, perhaps, but excellent public relations!) helped to break the ice of consumer resistance, and from then on plane-load shipments of flowers, furniture and garments followed.

Rival companies by the score were now entering the air transport field, and the usual price-cutting war ensued. The Flying Tigers soon found themselves critically short of funds, and began to practise what they had learned in China—taking anything, anywhere, at any time. In fact, the phrase "We fly anything, anywhere, anytime" became the company's credo; another slogan which has lasted as long is "If you can get it through the airport gate, we'll fly it." In the next few months the line flew every type of cargo, including homeward bound sailors from disembarkation ports (rounded up by pilots looking for loads), race-horses, loads of silverware being parachuted over towns from coast to coast in a promotional stunt by a manufacturer, and on one special occasion a rich Texan who had his private charter plane painted like a totem pole and the pilot (who happened to be Prescott) dressed as a cowboy. Perhaps fortunately for the company, these circus-like acts are things of the past.



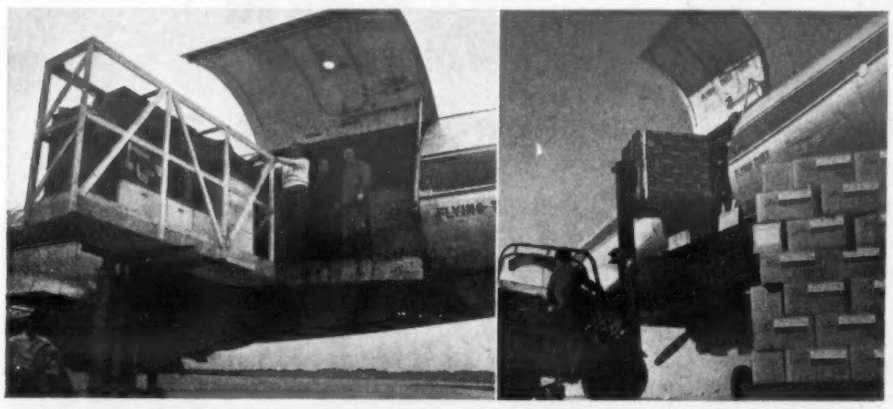
Regular freight services of Flying Tiger. Points marked * are served by fast road freight services as is Philadelphia other than once weekly

Effect of Large Contract

By the end of 1946 the competitive race, growing like a wild weed, had brought some 300 ventures like the Tigers and Prescott's enterprise was saved from extinction by a timely, and successful, bid which brought under one carrier—his Flying Tiger Line—the operations previously shared by several airlines to supply the American forces of occupation in Japan. So, starting in 1947, the airline overnight began operating the largest, longest air-lift ever flown by a private contractor—42 four-engined planes on an eight-flights-per-day schedule between the United States, Honolulu and Tokyo. The performance turned in by the company not only brought a glowing tribute from Air Transport Command—it also established the airline as an operator capable of doing a major job.

During the operation of the transpacific contract, the Flying Tigers had still managed to maintain a skeleton operation across the United States, and at the end of the military contract it concentrated all its energies on domestic air freight. They had learned, the hard way, that shippers demanded scheduled, daily services over specific routes, at regular hours and at established rates. However, such operations required the approval of the Civil Aeronautics Board. The airline, therefore, filed an application for a certificate of convenience and on this temporary permit operated for the next 3½ years. In the meantime, an attempt was made by the passenger airlines, which had the advantage of being subsidy-supported, to dispose of the freighters by acute price-cutting. In 1948, the C.A.B., realising that the rate war threatened to

(*Continued on page* 14)



Unloading scenery for "Marriage-Go-Round" at Philadelphia for Monday opening having been dismantled after Saturday night closing in San Francisco; right, loading vaccine for Warsaw at Indianapolis

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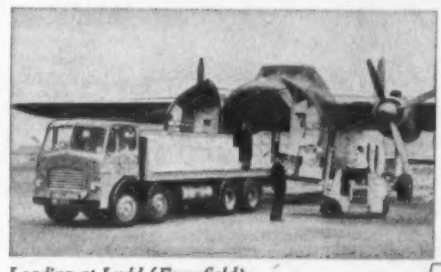

Loading at Lydd (Ferryfield)

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Birmabright from start to finish

Birmabright buses built by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. display their natural aluminium finish in the City & Royal Burgh of Edinburgh. (Because of its excellent resistance to corrosion Birmabright needs no protection, so painting costs can be entirely eliminated).
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LORRY—BUS—COACH

Four-Point Haulage Wage Claim

IT is learned that the Transport and General Workers Union on Friday last week submitted an application to the Road Haulage Wages Council for substantial improvements in the statutory wages and conditions applying to road haulage workers covered by Wages Council machinery. Unlike recent wage claims, which have initially named only "a substantial increase," the present application is specifically for 10s. per week on basic rates, with proportionate increases for juniors. Secondly, it is proposed that where a customary holiday is worked, one day's additional pay should be granted, in addition to payment at double time for all hours worked, as at present. Thirdly, the unions want the annual holiday period to run from May 1 to September 30—at present the period is May 1—October 15. Fourthly, it is sought that the relative overtime clause be amended so that only the first three hours of overtime in any period from Monday to Friday is paid at time-and-a-quarter, and all hours thereafter at time-and-a-half. At present time-and-a-quarter is payable for the first six hours of overtime Monday-Friday.

L.T.E. Anxious for Bus Bonus Scheme

A TEAM of experts is working on a bonus scheme for London Transport bus crews, Sir John Elliot, chairman of London Transport, revealed recently. He was talking with editors of Home Counties newspapers and said that no scheme had yet reached the stage where it could be discussed with the trade union. He enumerated three points of difficulty in formulating a bonus scheme of this character: (*a*) the work concerned was not repetitive, as in productive industry, (*b*) many bus routes did not show a profit; and (*c*) no scheme was any good, to London Transport or the public, if it brought no addition to receipts. This did not mean that they were discouraged—they had every intention of finding a suitable scheme. It is understood that some garage committees have been working on a bonus scheme from the workers' viewpoint and intend to circulate it to other garages for comment before it is officially considered by the union.

How Economical are Rail Rates?

IN their determination to get traffic at any cost, the railways seemed to feel free to cut certain of their rates to an absurd extent, charged Mr. R. B. Brittain, chairman of the Eastern area of the R.H.A., at Lowestoft this week. In the general way hauliers could not grumble too much about this, provided the cost was borne by the railways themselves. But if the railways could always find a generous Chancellor to meet their enormous losses hauliers had every right to object that they are using public money in order to cut their prices. Operators in Lowestoft and Yarmouth, he was told, had been particularly affected by what he could only describe as completely irresponsible rate slashing on the part of British Railways. For example, the tonnage rate for frozen food and fish from this part of the country to London had been cut by nearly half since 1955. The railways did not make a profit in 1956, 1957, or 1958, he maintained; how could they hope to do so in 1959 when they practically halved their charges?

Passengers Flow Back

SOME additional passengers are being carried by Lincoln Corporation Transport Department, said Alderman F. W. G. Todd, chairman, at the last Transport Committee meeting. Some 390,000 passengers had returned, bringing in an extra £6,440, and this was one reason why the deficit of £10,000 is £4,000 less than estimated, despite wage awards costing £3,000. They had increased fares five or six times in five years but not since early 1957, although there had been extra charges through wages, he said. "We have tried to concentrate on getting back the passengers we have lost in past years." They hoped to continue to keep fares stable. In the peak year of 1952 there were 19 million passengers. Last year there were 15 millions. If they could get one million back the budget could be balanced.

Bolsover Colliery and a slice of local scenery provide the backdrop to an East Midland Motor Services Leyland Titan bus on its way to Chesterfield

Decision on School Transport

FREE transport for children over the age of 11 living between two and three miles from school is to be restored in the West Riding. This was decided at a meeting of the county Education Committee on February 24 when it was stated that several thousand children would be involved, and the cost, which would fall on the rates, would be £33,000 a year. Alderman J. Fuller Smith, vice-chairman, in opposition, said the cost would possibly be £50,000 in two or three years' time. He thought the Minister of Education would be compelled to take some action about it, or other education authorities would follow suit. He pointed out that the Chief Education Officer, Mr. A. B. Clegg, had said that he had received only four complaints about the three-mile limit, but Alderman Mrs. Jessie Smith said most members had had many complaints about it.

Highland Haulage Fails in Hiring Case

LAST Friday, the deputy Scottish area Licensing Authority refused in toto an application by Highland Haulage, Limited, Inverness, for an A-licence hiring allowance to permit the use of 30 vehicles from September 1 to April 30. It was suggested that principles applied to ordinary licensing of goods vehicles in other parts of the country, particularly in industrial areas, should not be applied in the Highlands. Mr. Alex Robertson, the licensing authority, said that it was not surprising that Highland Haulage had 32 objectors to its application, because this operator had been regular objectors to most applications made by other operators north of the Caledonian Canal. He found that there was insufficient evidence of inconvenience caused by unsatisfactory sub-contracting. The company was operating to some extent as a clearing house, employing many of the small contractors to do work for it and there was no evidence of difficulty in hiring vehicles. If the application were granted, control over the licensing of seasonal traffic would be taken away from the licensing authority and would pass to Highland Haulage, he said. That would be most detrimental to the business of small operators north of the Caledonian Canal. Earlier, the managing director of Highland Haulage, Mr. W. H. MacLennan, said that he had made the application on economic grounds because it was not considered reasonable that the company should invest in additional vehicles which it could employ fully for only eight months of the year.

Labour Split on Fate of Transport

POLITICAL correspondents have exhibited some degree of unanimity in the past week or so in their belief that the Labour Party has run into deep water in its efforts to formulate a policy for the treatment of transport if and when it is returned to power. Those in favour of a widespread measure of renationalisation of haulage and some kind of restriction on C-licences are being opposed by the T. and G.W.U. element, which looks askance at any prospect of reduced employment for its lorry driver members. On the other hand, the railway unions favour some form of subsidy for the railways so that wages may be improved and they do not mind in the least restriction on C-licences if it will improve the railwaymen's lot. All in all, it is not surprising that the Socialists have no plans to publish a policy statement on transport paralleling that which is appearing shortly about the fate of steel.

Final Refusal in No-Standing Talks

AFTER the meeting last week of the National Council for the Omnibus Industry, it became known that the employers' side had rejected a proposal from the union side that there should be a ban on standing passengers in buses operated by provincial companies adhering to the national agreement. This means that all three principal sections of the bus industry, London Transport, municipal undertakings, and provincial companies, have now resisted the union proposals.

Rural Bus Conference

THE Northumberland Rural Community Council has called a conference at Newcastle upon Tyne on March 14 to discuss rural bus services. Viscount Ridley will preside. Mr. A. Trotter, secretary of the Community Council, said they had been informed that a departmental committee set up by the Ministry of Transport was not likely to produce a solution on the subject in the near future, and meanwhile bus services in rural areas were continuing to decline. It was necessary, stated Mr. Trotter, to renew pressure on the Government.

London Bus Timetable Booklets

REPLACEMENT of the first London trolleybuses by buses this week was marked by London Transport with the issue of booklets, one each for the Woolwich and Croydon groups of routes, giving timetables for all replacing buses, comparable to that displayed at stopping places. An explanatory introduction notes succinctly that the trolleybuses in these areas "are over 20 years old. . . . The change is being made because the buses can go anywhere and will enable London Transport to give you better service."

The following amendments to the route details given in our January 24 issue may be noted: some journeys on 64 are extended to Eden Park Station at school hours—this route operates to West Croydon Station only on weekday evenings; 132 operates to Bexleyheath Garage only on Monday-Friday evenings.

Bus and Coach Developments

Barton Transport, Limited, seeks excursions and tours from Cropwell Butler operated by G. A. Lewis.

G. J. Miller, Cirencester, applies for the licences of Private Coaches, Limited, Swindon.

Glasgow Corporation applies for a Millerston—Rouken Glen service. This is at present provided by tram route 8.

Yelloway Motor Services, Limited, Rochdale, seeks the licences of Holts of Oldham, Limited.

Blue Coaches (Ilfracombe), Limited, proposes a summer service between London and Ilfracombe.

Alternate journeys on Southdown Service 109 between Brighton (Pool Valley) and East Moulscombe now operate via Nyetimber Hill and Birdham Road between Higher Bevendean and East Moulscombe and are numbered 109A.

On February 4, London Transport Central bus route 143, Hendon Central Station—Highgate (Archway Station), was diverted via The Bishops Avenue and Aylmer Road (previously part of route 58); from February 18, certain weekday afternoon journeys on 250, Epping Town—Hornchurch Garage, were extended to Corbets Tey (previously served by route 249); route 73A, Hounslow Garage—Richmond (Sandycombe Road), was withdrawn from March 4.

No problem with
AUSTIN
OMNIVAN
fitted with an 8 inch
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FRICTION CLUTCH

"The Borg & Beck 8 in. diameter clutch, with a spring loaded centre, is amply proportioned to resist the continued stops and restarts involved in normal delivery work, taking up the drive smoothly under all conditions."

Report of road test by "COMMERCIAL VEHICLES"

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A MODERNISED SCOTTISH REGION STATION

New Booking Hall at Dundee Tay Bridge

A MODERN booking hall with centralised ticket and inquiry office was opened at Dundee Tay Bridge passenger station on the Scottish Region of British Railways on February 2. The new building, which is at street level, has a glass frontage for its entire height, and incorporates a booking hall with combined ticket, inquiry and reservation office. Staff amenity apartments are situated on the upper floor. The concentration of all these facilities in the one place and the fact that the new office is a few hundred yards nearer the centre of the city should prove of benefit to passengers using the station. In front of the building is a forecourt for pedestrians and motor cars.

Exterior of the new Dundee Tay Bridge booking hall, Scottish Region, British Railways

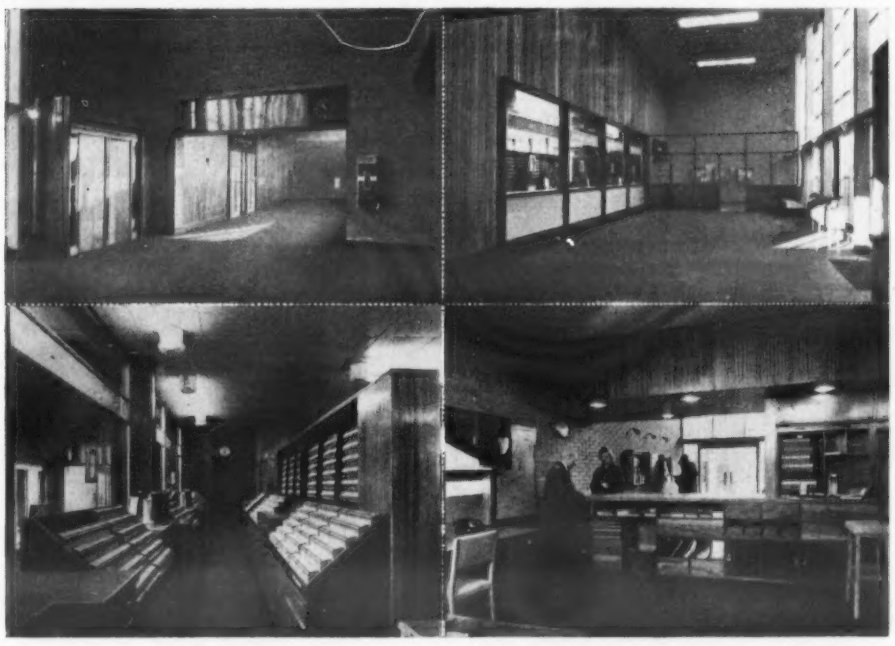
New Booking Hall

The booking hall and office ceilings are finished with acoustic tiles in pleasing colours while the floors from the booking hall to the staircase landing are of heavy-duty rubber tiles. Four Hygiaphone booking windows in clear glass are fitted in the ticket office where tickets to stations are booked alphabetically with commencing letters A to L and M to Z. The ticket windows are framed in anodised aluminium and the interior of the offices has been tastefully designed, the panelling and furniture being in sapele mahogany veneer and chairs upholstered in texturide to tone with the surroundings.

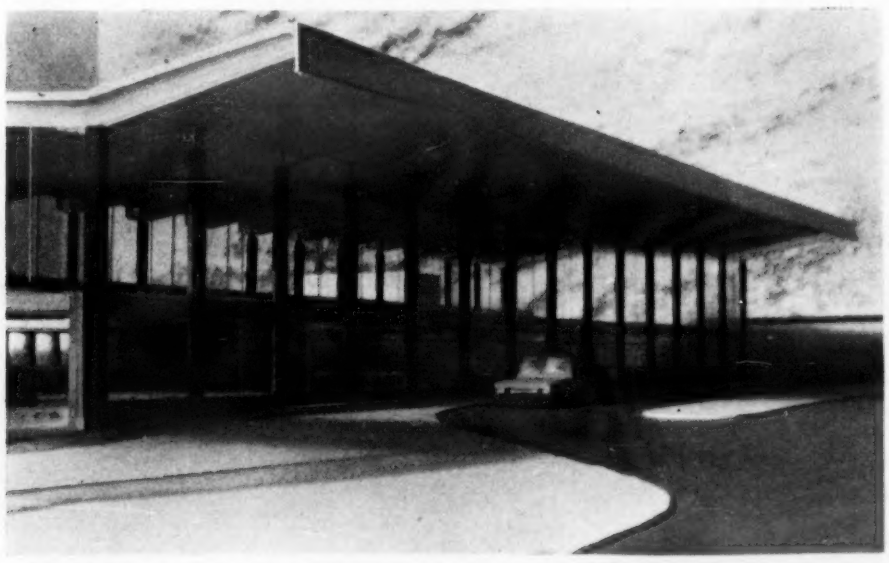
Heating from a gas-fired boiler is radiated throughout the new building and floor heating in the booking and inquiry halls provide warmth and comfort to passengers during the cold winter weather. The modern lighting installation is an attractive combination of fluorescent and tungsten fittings.

Access to the platforms from the booking hall is by means of a new overbridge connecting with a modern staircase which has separate access from South Union Street. On the bridgeway leading from the booking hall there is a battery of 16 automatic left-luggage lockers in which luggage and other articles can be deposited at a charge of 1s. per locker for 24 hours. At the left-luggage office on the station platform an additional amenity is the low counter for the easy handling of luggage. The platform buildings are being entirely renovated and work will be completed soon.

The scheme is in keeping with the new look so recently provided by warm and comfortable multiple-unit diesel trains on the Arbroath—Dundee—Perth suburban services. Passengers are spared the fatigue of changing stations when making through journeys and as new diesel cars come forward so the public will be given an ever better service under the modernisation programme. Over 400,000 passengers are booked annually at Tay Bridge Station; there are some 5,000 season tickets issued as well as more than 9,000 seat reservations and 9,000 sleeping-berth reservations. From February 2 the former town inquiry and ticket office in South Union Street was no longer necessary and was closed.



Entrance to overbridge to platforms; the booking hall; below, interiors of the booking office and the seat reservation and inquiry office at Dundee Tay Bridge



Planning consent is being sought for the new station buildings at Barking, London, Tilbury and Southend Line, on which it is hoped to start work this year. Careful phasing is expected to allow existing station facilities to be used by passengers during most of the two-year construction period. We illustrate the street frontage of a model of the new building which has been designed by Mr. H. H. Powell, regional architect, Eastern Region, and which it is interesting to contrast with Dundee Tay Bridge illustrated above. The new main building will be entirely above the railway tracks

2500 h.p. per engine for

BRITISH RAILWAYS

The 137 twin-bank SULZER Diesel Engines recently ordered through Crompton-Parkinson by the British Transport Commission are the most powerful engines being supplied to British Railways. Some of these engines will have a B.S.S. continuous rating of 2,500 H.P. at 750 r.p.m. and the balance will be rated at 2,300 H.P.

Illustrated above is a similar 12LDA28 engine, coupled to its Crompton-Parkinson main and auxiliary generators, as being supplied to an earlier British Railways' order.

Sulzer Traction Engines are built by Vickers-Armstrongs (Engineers) Ltd., at Barrow-in-Furness incorporating Sulzer Pressure Chargers manufactured by the de Havilland Engine Co. of Leavesden, Herts.

SULZER BROS. (LONDON) LTD., 31 BEDFORD SQUARE, LONDON, W.C.1

B T-H

DIESEL-ELECTRIC LOCOMOTIVES
FOR MAIN LINE SERVICE

As part of their far-reaching modernisation plans, British Transport Commission called upon BTH to supply ten 800-h.p. diesel-electric locomotives for main-line freight duty. The illustration shows the first of these locomotives on test.

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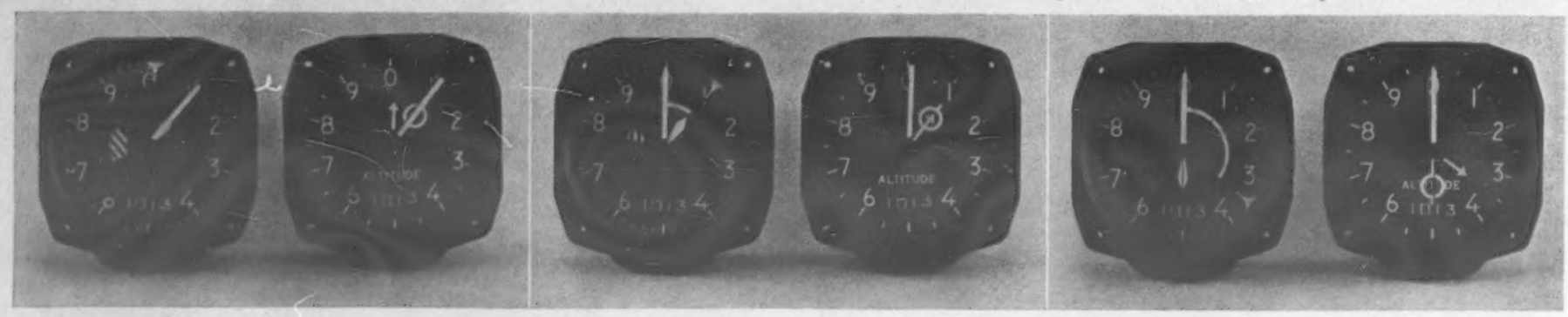
ALTIMETER DESIGN

Notice of Compulsory Changes

IN a written reply to a question in the House of Commons last week, Mr. Harold Watkinson, Minister of Transport, stated that his Department and the Air Registration Board had been studying the problems of clearer and easier recognition of altimeter readings for some time, as had been other aviation authorities including the United States. As a result of these studies the Ministry and the Air Registration Board had required interim modifications to the dials of existing altimeters on Britannia, Comet, Viscount and all other aircraft which operate above 20,000 ft. to be carried out by September 30, 1959.

In order to advance with the greatest effectiveness the studies already undertaken, he had also decided to set up a committee under the chairmanship of his Department with the following terms of reference: "To investigate the design of altimeter faces and mechanisms, including the use of special visual or audible signals, and to make recommendations for the design requirements best suited to modern needs for quick and easy recognition of altitude readings." In addition to the Air Registration Board, he had invited representatives of the principal interests concerned to serve on the committee, including those of operators', pilots', and navigators' associations, and the manufacturers of instruments and of aircraft.



Comparison of the new and old altimeter presentations at 1,100 ft. (left), 11,000 ft. (centre) and 35,000 ft. In the first place the large area of low-level warning flag visible and almost complete absence of the follow-up line are apparent and in the 11,000 ft. example the warning flag is just starting to show. This comparison also shows the way in which the 10,000 ft. pointer lies below the 1,000 ft. pointer in the old presentation. The new altimeter is the Kelvin Hughes model

Redesign of Altimeters

The Ministry of Transport and Civil Aviation will shortly send to airline operators, pilots, training organisations and other interested parties a flight safety warning about the risk of errors in reading the three-pointer sensitive altimeter. This is an instrument with three needles of varying length to register height in hundreds, thousands and tens of thousands of feet. The warning circular will say that, with the existing three-pointer altimeters, mistakes of 10,000 ft. have been made in reading altimeter dials in high-flying aircraft. Such errors are most likely when the routine monitoring of the instrument panel has been interrupted. If this happens during climb or descent the height when the instruments are rescanned may be very different from that anticipated.

This circular follows the notice from the Air Registration Board requiring the three British high-flying turbine aircraft, Britannia, Comet and Viscount, to be equipped before September 30, 1959, with altimeters so designed as to lessen the risk of misreading. In addition, all new types of aircraft which operate above 20,000 ft. must be equipped with acceptable altimeters by the same date. Nearly all these types will be high-speed turbine aircraft. Piston-engined aircraft operate at lower heights and climb and descend less rapidly. Consequently their pilots do not experience the same difficulty.

Principal Changes

For some time the Ministry and the Air Registration Board have been working on the redesign of the dial and pointers pending further research and development on altimeters. The principal changes are that the 10,000-ft. pointer has been lengthened and altered in shape to distinguish it from the others. It now reads directly on the extreme rim of the dial and is no longer obscured by other pointers. Secondly, this 10,000-ft. pointer has a curved follow-up white line as an additional indication of its position on the dial. Thirdly, there is a striped warning flag which is progressively revealed as the altitude of the aircraft decreases. The more the pilot sees of the warning flag the less his altitude becomes. Conversely, the smaller the flag the greater the height of the aircraft.

★

LETTERS TO THE EDITOR

Irish Sea Ships

SIR,—I was greatly interested in the article on "A Liverpool—Belfast Ferry Service" in your issue of January 31, which brought back nostalgic memories.

In addition to the *Spaniel* and *Pointer* mentioned, G. and J. Burns owned the *Vulture* and *Magpie* and the *Woodcock* and *Partridge*, both pairs of sister ships. They were all employed on the Ardrossan—Belfast night sailings. There were also the *Redbreast*, *Ermine* and *Hound*, quite apart from the famous paddler *Adder* and the turbine *Viper* on the daylight sailings to Belfast during the summer months, now taken by the *Laird's Isle*. On the Glasgow—Dublin route the *Tiger* and *Puma* were popular ships of their time.—Yours faithfully,

LAMBERT H. BAILEY.

56 Oakleigh Gardens, N.20.

Bluebell Line Meeting

SIR,—With reference to the note that you published some weeks ago concerning the proposed formation of a Lewes-East Grinstead Railway Preservation Society to reopen the Bluebell line, the inaugural meeting of the society is to be held in the Church Lads Brigade Hall, Gower Road, Haywards Heath, at 2.30 p.m., on March 15.

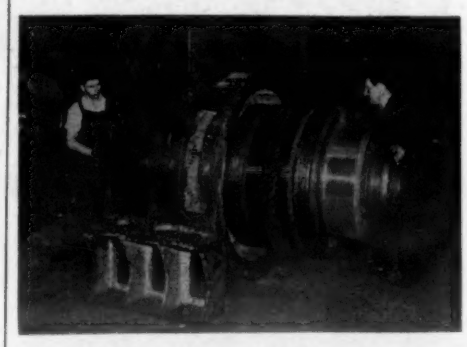
The date of the meeting coincides with the first anniversary of the final closing of the line.—Yours faithfully,

DAVID C. DALLIMORE.

126 The Ridgeway,
Woodingdean, Brighton, 7.

The article on the new Liverpool—Belfast ferry service, which appeared in our January 31 issue, referred by inadvertence to the Insulated Trailer Company as having supplied light alloy containers. These containers were, in fact, supplied through G. E. Neville and Sons, Limited, by Insulated Containers, Limited, 72 High Street, Bedford.

London Transport abandoned operation of the Acton Town—South Acton branch on February 28. This view of the single-car train at South Acton taken on the last day shows the train number 100 temporarily duplicating the Aldwych branch train number. The former number, 99, had latterly been required for an additional train in the District-Metropolitan series



Assembling a main and auxiliary traction generator for B.R. Type 4 diesel-electric locomotive at Crompton Parkinson (Chelmsford), Limited. Ten, coupled to 2,300-h.p. Sulzer diesel engines, are in hand for locomotives under construction at Derby; now the B.T.C. has ordered a further 137 sets, some of which will be rated at 2,500 h.p.

TRADER MAKES THE MUD FLY!

In Holland, metal windows wanted—urgently! In Birmingham, a loaded Thames Trader and trailer were leaving the yard of leading window manufacturers Henry Hope. The schedule: 200 miles, with customs checks and sea crossing, in just 30 hours. The Antwerp boat was slow—and late!—but not to worry: the tough Trader delivered on time, despite atrocious roads and conditions. Driver Eddie Weston felt relief—until the next morning, when he found his Trader axle-deep in mud! But again, Trader toughness pulled through—right through the mud under its own power—to be back in Birmingham the following night, still on schedule.

Tough job . . . tougher truck! On building sites . . . dockyards . . . farms—wherever there's a tough job you'll see Thames Traders—staying on the job longer, pulling profits faster! Powerful engines provide consistent peak-efficiency performance plus real economy. Full forward-control gives greater loadspace, tougher chassis, near-perfect weight distribution. The comfortable air-cooled cab means regular 'no-complaints' trips for Trader drivers. Let Thames Traders tackle *your* transport problems: ask your Ford Dealer for a demonstration.

Whatever your transport problem there's a Thames truck built to build YOUR business. Make your 'tonnage' choice from the 30 cwt. to 7 ton range and choose from the 4 or 6 cyl. engines with an option of petrol or diesel power.

BEST SELLING TRUCKS IN BRITAIN

THAMES **TRADERS** BY **FORD**

30 HUNDREDWEIGHT TO 7 TONS

ROAD PASSENGER TRANSPORT EAST OF WOOLWICH

Passing of the Trolleybus

OVER 55 YEARS OF ELECTRIC TRACTION

ABANDONMENT of trolleybus operation from Bexley and Carshalton depots, which London Transport carried out on March 4, is not the first stage in this process, since service 612 from Battersea (Princes Head) to Mitcham (Fair Green) was discontinued on October 1, 1950. As service 630 continued, this involved the dismantling of only 1½ miles of overhead. The recent abandonments concern routes owned by six separate tramway authorities in 1933. Electric traction ceased on the whole of the former Bexley U.D.C. tramways, on all the Erith U.D.C. tramways, save half a mile abandoned in 1910, on all that remained of the Dartford U.D.C. system after nearly half was abandoned in 1934-35, on the last surviving electric route of the Croydon Corporation tramways, on about two-thirds of the South Metropolitan system, and on the last of the London County Council system south of the Thames except for three Wandsworth routes.

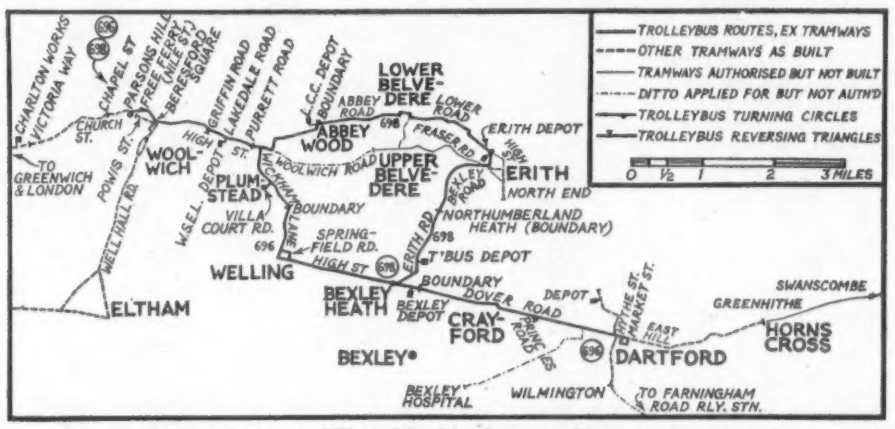
A 3 ft. 6 in. Gauge Line

Of these six, the L.C.C. portion had been the earliest to have a tramway, from Woolwich to Plumstead in 1882; the Bexley section was in 1903 the first to be worked electrically. An application in the 1880 Parliamentary Session for a Woolwich and Plumstead Tramways Provisional Order resulted in the incorporation on October 28 of the Woolwich and South-East London Tramways Company, with powers to build a 3 ft. 6 in. horse line from Purrett Road, Plumstead, along the High Street to Beresford Square, Woolwich, where it forked into two short branches along Beresford Street and Powis Street. The Woolwich and South-East London Tramways Provisional Order of 1881 authorised the former to continue along Church Street and Woolwich Road to Christchurch Road, on the outskirts of Greenwich, where it met the standard-gauge line of the Southwark and Deptford Tramways Company.

The 150 yards of tramway at Plumstead were purchased by the L.C.C. as from June 18, 1908, a condition being that Bexley should have through-running facilities into Woolwich, the gross receipts being paid to the L.C.C. less operating expenses. This service started on July 26, 1908, Bexley cars terminating on a special siding in the middle of Beresford Square clear of the main tracks. On the same day the L.C.C. opened its own new route from Plumstead to Abbey Wood, with a new depot at Abbey Wood terminus which replaced Lakedale Road and was later enlarged to hold 86 cars instead of 25 when in 1914 electric services from Woolwich were extended to the centre of London. The cars used on the Abbey Wood to Woolwich service were delivered by railway to Abbey Wood station, each on three wagons containing the upper deck, the lower deck, and the running gear, and were moved on horse-drawn trolleys to the depot, where they were assembled. Later, on July 23, 1910, the Woolwich—Eltham service began; to avoid interference with the magnetic station at Greenwich twin positive and negative overhead wires were used, instead of a running rail return; twin trolley poles were used as on a trolleybus.

Petrol-Electric Experiment

In October, 1912, the L.C.C. experimented on the Abbey Wood route with two former horse trams converted to self-propulsion with Tilling-Stevens petrol-electric sets, but they were later transferred to the Tooley Street and Deptford line. Trailer cars also were operated on the routes from Woolwich to both Abbey Wood and Eltham, being hauled by standard double-deck electric cars. Sanction for this was granted by the Board of Trade on March 20, 1913, for three months only, and only between 6 a.m. and 10 a.m., and 4.30 p.m. to 11 p.m. For use as trailers the L.C.C. converted eight horse cars, built in 1900, which



Trolleybus routes east of Woolwich with reference to former tramway systems

The 1880 and 1881 sections served Woolwich Arsenal and Dockyard respectively.

All the routes were open by the end of 1882, totalling 4.96 miles; they used a type of permanent way which had already proved successful in Ipswich. The break in gauge at Greenwich prevented through running, although the two companies had two directors in common. The depot was in Lakedale Road, Plumstead. A Woolwich Tramways Provisional Order applied for in 1883 for further routes did not materialise, nor did an 1898 application for another Woolwich and South-East London Order.

Bexley U.D.C. Tramways

Bexley Urban District Council promoted a Bill in 1901 for a standard-gauge electric tramway from Purrett Road, Plumstead, along Wickham Lane and Welling High Street to Bexleyheath, branching there along Dover Road to the Crayford boundary and along Erith Road to the boundary at Northumberland Heath, a total of 5.32 miles. This was all authorised, and all opened to traffic on October 1, 1903. Exactly one mile of the route, along Wickham Lane, was inside the County of London, and would not have been authorised had the application been made a year or two later, after the L.C.C. became more tramway conscious. Elsewhere around the fringe of the county several other tramways were built by outside authorities; these were later purchased by the L.C.C., although the Wickham Lane line was not.

The last 150 yards of the Bexley tramway, along Plumstead High Street from the corner of Wickham Lane to an end-on junction with the W.S.E.L. horse line, soon became an obstruction to the L.C.C., when, on purchasing the horse tramway, it wanted to extend it further along the High Street, Basildon Road and McLeod Road to Abbey Wood, another point on the county boundary. The L.C.C. obtained an Act in 1904 authorising it to acquire the company tramway from Beresford Square to Plumstead, to reconstruct it with double track on standard gauge for electric working, to purchase the 150 yards from Bexley, and to build the extension to Abbey Wood. The company refused to sell, and demanded as compensation a sum equal to the amount they would have had to spend on street widening had the line been built in 1905 instead of 1882. The argument reached the High Court, but the L.C.C. won, and it acquired the company's assets on June 1, 1905.

Electrification

Electric tramways of the L.C.C. were approaching Woolwich from Eltham, in the south, so the council was at first interested only in electrifying the Beresford Square to Plumstead section, leaving horse cars to continue between Woolwich and Greenwich. Part of Lakedale Road depot was altered to take standard-gauge cars, and the surviving horse trams were moved to a new temporary depot on a plot of land near Tunnel Avenue, Charlton, where later the L.C.C. built its main overhaul works. On April 17, 1908, 12 open-top four-wheel electric cars of class B started running between Woolwich and Plumstead with overhead-trolley current supply.

it had inherited in North London from the North Metropolitan Tramways Company. These were renumbered T1 to T8, and started work on both Woolwich routes on June 7, 1913. After a few months the trailers were transferred to the Merton—Tooting—Clapham—Embankment service.

The rest of the Woolwich horse tramway was electrified in short sections; one from East Greenwich to Tunnel Avenue on June 10, 1906; to Rainton Road on July 22, 1909; to Chapel Street on April 1, 1911; and (from the other end) from Beresford Square to Nile Street on November 30, 1909. The final section through Woolwich from Chapel Street to Nile Street was not electrified until April 5, 1914; during the years of the changeover the 3 ft. 6 in. gauge horse cars had to be rescued from their isolated track each night on a standard-gauge transporter wagon—and, of course, returned in the morning. Current supply from Greenwich to Nile Street was by third and fourth rail in an underground conduit, and from there onwards by overhead trolley, a conduit change pit being installed at Nile Street, slightly east of Woolwich Free Ferry.

The Erith Tramways

Meanwhile, Erith Urban District Council had promoted a Bill in the 1903 Session asking for tramways from Erith Town Hall along Pier Road and Crayford Road to North End, along Bexley Road to Northumberland Heath, along Fraser Road and Woolwich Road to Plumstead via Upper Belvedere, along Lower Road and Abbey Road to Plumstead via Lower Belvedere and Abbey Wood, a connection from Upper to Lower Belvedere, and connections in the town centre along Queens Road and High Street. The line between the two Belvederes was rejected in Parliament, as was the Woolwich Road route beyond Albert Road. The rest was passed, comprising 8.09 route miles, but no part of the Fraser Road and Woolwich Road route (bus route 99 today) was built, nor were the lines in Queens Road or High Street. The portion from Abbey Wood to Plumstead, being inside the County of London, was not to be built by Erith unless agreed by the L.C.C. and the Borough of Woolwich, and the powers for this section were transferred to the L.C.C. by the latter's Act of 1904.

The three routes from Erith to North End, Northumberland Heath, and Abbey Wood were all opened on August 26, 1905, totalling 4.71 miles. A major work was the substitution of a skew bridge for a railway level crossing over a main line in Lower Road, but groups of industrial sidings crossed the tramway on the level at two places nearer the town centre. The four-track tram depot was built in Walnut Tree Road, almost opposite the Town Hall, and Mr. A. Coveney, general manager of Ashton-under-Lyne Corporation tramways, became the manager at Erith. A fleet of 14 four-wheel double-deck trams was purchased, with Brush bodies, Mountain and Gibson trucks, and Westinghouse electrical equipment. Of these, seven had open tops and seated 48; the remainder had covered tops and seated 52. There was also a water car with similar truck and equipment. Livery was light green and cream; after 1917, dark red and cream.

(To be continued)

TWO LAKH
(200,000 to you)
MILES UNFINISHED..
and still going strong

Mr. S. Gurdial Singh is on the right. The 'Comet' bus is modestly in the background.

Leyland 'Comet' buses are usually earmarked for overseas, and a reminder of the stalwart work they do comes from the Patiala Bus Service (Private) Ltd., who write :—

"This 'Comet' bus has been handled by S. Gurdial Singh through out and he has created a record of covering two lakh miles, and its engine has not been cleaned so far."

So far, so good . . . but according to Leyland calculations, it's good for another lakh or two yet before any attention is needed. The letter goes on :—

"This S. Gurdial Singh is a Driver with the District fame. He has been readering (sic) *meritorious services for the transport and has specially selected the Leyland for creating a good record which he has done definitely."*

He couldn't have chosen better! The letter ends on a gratifying note :—

"His maintenance and driving has created a charm and affection for Leyland among the transport operators in Punjab."

Thank you, Mr. S. Gurdial Singh

Leyland *NEVER STOPS BREAKING ECONOMY RECORDS*

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"Assure me, dearest Matilda, it was all an evil dream"

"Oh villainy most vile!" With this wild eldritch cry Egbert started from his pillows. Matilda, hurrying to his side, pleaded with him to disclose the cause of such piteous perturbation.

At length, with many a sigh and groan, Egbert gasped, "Driving upon a dark and lonely road, I was of a sudden set upon by footpads and thieves who seized me, hurled me viciously into the roadway and drove off with joyous laughter, mindless of my plight. Even now those dastardly wights are reaping the fruits of my labours, enjoying my engine's surging power as it makes mock of the direst hill, burning away my precious fluid!"* Overcome with anguish, he could say no more. "Courage, my brave Egbert!" Matilda resolutely entreated him. "You are here, in your own bed, Egbert. You have but dreamt this calamity."

Hope battled with despair in Egbert's face. Clutching her hand in his troubled grasp, he breathed, "Assure me yet again, dearest Matilda, assure me it was all an evil dream."

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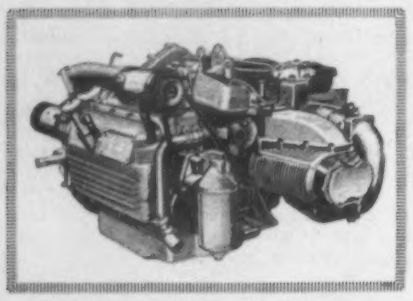
with over 21 feet bodyspace



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The Rootes diesel engine is a phenomenal direct-injection two-stroke with opposed pistons and blower-assisted scavenging. Developing 105 b.h.p. and possessing exceptional low-speed pulling power, the engine is light and compact with an outstanding power-weight ratio, its fuel costs extremely economical and its maintenance, simplicity itself.

Based on the well-proved Commer 7 ton chassis the 'Commer-Unipower' 10 ton trailing axle six-wheeler has bodyspace of 21 feet 6 inches and is powered by the remarkably economical Rootes diesel engine. The wide use of Commer components in the chassis conversion facilitates servicing through the country-wide Commer Dealer Organisation, and whether it be for heavy duty industrial work or long-distance haulage the 'Commer-Unipower' will give you steady, reliable, economical service.

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NEWS FROM ALL QUARTERS

Severn Ferry Going

The ferry across the Severn at Arley, Worcestershire, which has been in existence since the 14th century, is to be replaced by a footbridge. The ferry, which is maintained by the county council, is greatly used and carries about 70,000 passengers a year. Two ferrymen give a service from 6 a.m. to 10.30 p.m.

M.o.T. Recognition of Advanced Drivers

The Minister of Transport is to appoint an official representative of the Ministry of Transport to the council of the Institute of Advanced Motorists. The Institute was formed in 1956 in response to a suggestion made by the then Minister of Transport that there should be an "honours degree" for motorists.

Tote System of Handling

Since the London Midland Region introduced the "Tote" system in 1957 for such commodities as powders, oils, paints, flour and sugar the demand has increased considerably. One user who began with 50 bins for carbon black now hires 500. Traders dealing with china clay, activated carbon and impregnated pitch are other enthusiastic users.

Tunnelling in Quicksand

Canadian National Railways engineers have found a solution to the problem of tunnelling through quicksand in Montreal. First they froze the quicksand by pumping chilled brine down into the sand from street level through a series of double-walled pipes. A heat exchanger cools the brine to about 15 deg. F. This task is in connection with realignment of the curves leading from Mount Royal tunnel to Central Station and associated work.

Clyde Tunnel Approach to Minister

An approach is to be made soon to the Secretary of State for Scotland by Glasgow Corporation for approval in principle for the start of work on the second tunnel under the Clyde between Whiteinch and Linthouse. Work started on the first tunnel in June, 1957. The approaches are being cleared and two 90-ft. deep shafts have been driven on the south side of the river. A pilot tunnel 12 ft. in diameter is now being driven and this first tunnel is expected to be completed by 1961. The second tunnel will lie alongside, but work is not expected to start before completion of the first.

Stafford—Stoke Road Improvement

The scheme for modernising the Stafford—Stoke trunk road (A34) will be advanced a stage further when work begins shortly on a 1¼-mile section, north of the Stone boundary and near the junction with the Nantwich road (A51) estimated to cost over £196,000. Dual carriageways, already completed on four miles of the road, will be extended along this further section, each being 24 ft. wide. The new section will have an overall width of about 88 ft., except at Darlaston, where the road will divide. Northbound traffic will continue to use the old bridge over the Trent, while southbound traffic will use a diversion, crossing the river by a new two-span bridge 32 ft. wide.

Glasgow Museum Trams

Five representative Glasgow tramcars are to be preserved at one of the Corporation depots with a view to their ultimately being exhibited by the museums department. The trams are an early horse-drawn vehicle dating from the late 19th century, a single-deck "room-and-kitchen" car, a 1914 car with open staircase and vestibule, the standard car as it now appears in service and a 1937 Coronation tramcar.

Canvey Island Approach Road

The Minister of Transport has made a grant to the Essex County Council of nearly £60,000 towards a road scheme which will provide easier access to Canvey Island from the Essex mainland at Benfleet. Estimated to cost about £100,000, the new road will be built to provide a 24-ft. carriageway and a 5-ft. footway. It will by-pass the level crossing at Benfleet Station, passing under the railway through a bridge on the west side of the station.

Withdrawal of West Country Trains

The passenger train service between Newton Abbot and Moretonhampstead was withdrawn by the Western Region on March 2. Passenger trains ceased at the following stations: Teigngrace Halt, Heathfield, Brimley Halt, Bovey, Pullabrook Halt, Lustleigh and Moretonhampstead. From the same day the passenger train service between Newton Abbot and Plymouth was reduced by the withdrawal of local stopping services, and trains ceased to call at Wrangaton, Bittaford Platform, Ivybridge, Cornwood and Plympton.

Belgian Motorways

Belgian motorway projects currently cover the construction of some 585 miles which it is hoped to complete at an approximate annual rate of 19 miles. When completed, this network of motorways will cover a total distance of 688 miles—103 miles have already been built and are in use between Brussels—Ostend, Brussels—Antwerp, and Antwerp—Grobbendonck, the last being a completed and recently inaugurated stretch of the proposed Antwerp—Liege motorway, on which work is continuing. After a year's postponement owing to budgetary difficulties, work on the Liege—Maastricht motorway has also begun, while work on the Brussels—Namur motorway began recently.

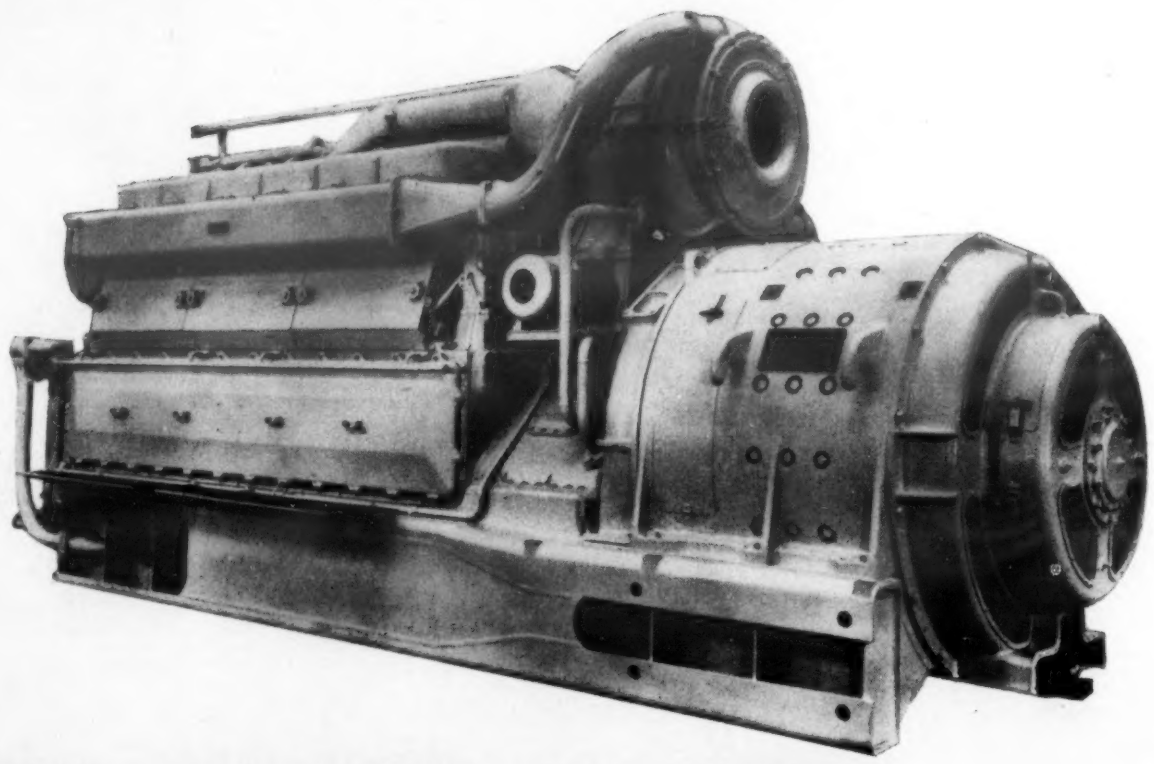
Better Rail Services to Norwich

As from March 2, the train service between Norwich Thorpe and Melton Constable via Cromer, which was not altered at the time of other changes on the Great Eastern Line on January 5, will be revised to fit more closely into the East Anglian interval train service pattern. Retiming of trains between Melton Constable and Norwich will give generally improved connections with the services to Ipswich and London. Co-ordination of road and rail services at Melton Constable will provide connecting road-rail services for passengers previously served by the M. and G.N. line, and there will be better connections at Norwich to and from Ely, the Midlands and the North of England.

Another 137 New Type 4 Diesel-Electric Locomotives

Crompton Parkinson Ltd. are proud to announce that they have been appointed main contractors for the supply of 137 power equipments, using 2500 and 2300 h.p. Sulzer engines, for the new Type 4 diesel-electric locomotives being built by British Railways as part of the railway modernization programme. These locomotives have the largest output from a single diesel-electric power unit of any in service in the British Isles.

This contract is *additional* to the work already being carried out by Crompton Parkinson in supplying the electrics for other power units in Types 2, 3 and 4 locomotives. The total orders in hand to date cover 259 equipments.



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ELECTRICAL EQUIPMENT

COMMERCIAL AVIATION

Conway Progress

MARCH OF THE JETS

THE Rolls-Royce Conway by-pass turbojet has now been approved by the Air Registration Board of Great Britain at 18,000 lb. minimum dry thrust for civil operation. Deliveries of Conway engines to Boeing and Douglas began in October, 1958, for the 707-420 and DC8 jet air liners, at a guaranteed minimum rating of 16,500 lb. dry thrust which is the rating offered for initial Conways in airline service. The Air Registration Board and the Federal Aviation Agency of the United States have already approved this engine at 17,000 lb. dry thrust. After an initial period of experience Conways in airline service can be uprated to 17,500 lb. guaranteed minimum dry thrust by a minor adjustment to the external control system. Production deliveries will then be made at this rating. The approval now given by the Air Registration Board covers this second step of civil development for the Conway and the approval of the Federal Aviation Agency will shortly be sought.

Riddle Orders Argosies

Riddle Airlines, the United States scheduled freight carrier, has placed an order for Armstrong Whitworth Argosies. This is the first civil order to be placed for this new turboprop freighter.

Boeing Completes First Qantas 707

The first American-built jet air liner to be delivered to a foreign airline emerged recently from the Renton, Washington, plant of the Boeing Airplane Company. Named the *City of Canberra* it is the first of a fleet of Boeing 707s for Qantas Empire Airways which will carry 30 first-class and 60 tourist-class passengers.

Pan American Transatlantic Flights

Pan American World Airways will offer twice daily jet service between New York and London beginning on April 26, and 11 jet flights a week to Paris beginning on June 1. In addition, the daily flight to Paris, which now continues weekly to Rome will fly to Rome daily from April 26. The additional four weekly flights to Paris will be routed via Boston. The summer schedule eliminates tourist-class service on Pan American transatlantic routes.

New Use for American DC7Bs

American Airlines has contracted with the Douglas Aircraft Company for conversion of 10 of its fleet of DC7B passenger aeroplanes to air freighters. Total cost of the programme will be $4,250,000, according to the announcement by Mr. C. R. Smith, the airline's president. Conversion of each of the aircraft is expected to take about five months. The entire programme will take a little over a year to complete, with the final DC7B air freighter scheduled for return to American by August, 1960.

T.C.A. Transatlantic Share

Nearly half the travellers who flew the Atlantic eastbound from Canada in 1958 were carried by Trans-Canada Air Lines, the airline reported recently. It stated that 42.4 per cent of the transatlantic air traffic from Canada was on T.C.A. Westbound, the airline carried 36 per cent of the traffic from Europe to Canada. Just over 61,000 people flew by T.C.A. across the Atlantic in 1958, a 25 per cent increase over 1957. More people flew in and out of London than the six other European points combined, a total of 36,120, while traffic to Shannon showed the largest percentage gain.

Caribou Weight and Capacity Increase

After six months' intensive test flying with the first two aircraft, de Havilland Aircraft of Canada has announced changes in the dimensions and weight of its new DHC4 Caribou which will improve the payload and carrying capacity, while still retaining the remarkable short take-off and landing performance. Test pilots have completed nearly 400 hours' flying on the first two aircraft and this programme has led to the decision to make a number of changes which will enhance the utility, efficiency and economy of the aircraft. The gross weight of the Caribou has been increased from 24,000 to 26,000 lb. which provides a greater payload. To accommodate better the bigger load, the cabin has been lengthened some 45 in. (114 cm.) to a length of 28 ft. 9 in. (8.5 m.) providing space for another row of passenger seats, which increases the total to 30. The cargo capacity is similarly increased.

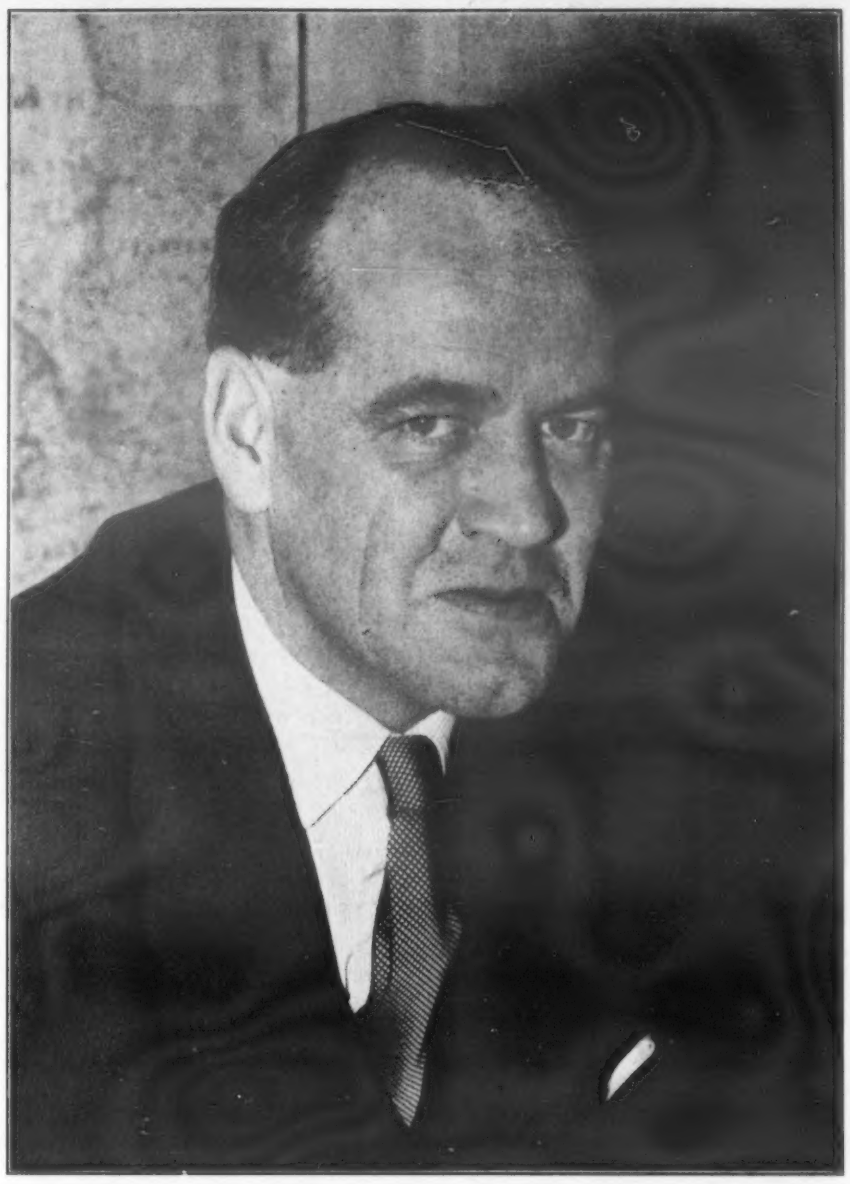
Next Introduction of A.A. 707s

The first jet service between New York and San Francisco will be introduced by American Airlines on March 22 with daily Boeing 707 flights in each direction also serving Chicago. Eastbound on the coast-to-coast flight, time will be 5 hr. 35 min.—about 2¼ hr. faster than present schedules. Westbound, from New York to San Francisco, the time will be slightly longer because of prevailing winds—6 hr. 40 min., or almost three hours faster than today's best time for the route. In both cases, there will be about a 30-min. stop at Chicago. New York—Chicago time will be about 1¼ hr. eastbound, 2 hr. westbound and Chicago—San Francisco will be 3¼ hr. eastbound and slightly more than 4 hr. westbound. In announcing the start of the New York—Chicago—San Francisco service, American called attention to the popularity of the 707 on the New York—Los Angeles nonstop service. It commenced this run on January 25 and over the first 2½ weeks the load factor was 99.5 per cent.

Revised Cargo Handling Code

A 125-page fourth edition of the world airlines code for handling special cargoes has just been issued by the International Air Transport Association with the approval of interested governments. Regulations in the new edition—some 30 pages larger than its predecessor—take effect on March 15. The revisions bring the I.A.T.A. cargo code up to date on new and revised government rulings and include as well regulations on a variety of new commodities offered for air transport, refinements in the specific packaging requirements for radioactive materials, and two entirely new sections: a glossary of commodity terms designed to assist identification of particularly technical cargo commodities, and a section on handling and loading recommendations for restricted articles in aircraft. Copies of the code—I.A.T.A. Regulations Relating to the Carriage of Restricted Articles—are available at $4.00 (U.S.) or equivalent, including revisions for 12 months, on application to I.A.T.A. at 1060 University Street, Montreal 3, P.Q., Canada.

PERMANENT SECRETARY TO MINISTRY OF TRANSPORT



L. J. Dunnett.

Mr. L. J. DUNNETT, C.B., C.M.G.

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As already announced in MODERN TRANSPORT Mr. Ludovic James Dunnett has, with the approval of the Prime Minister, been appointed Permanent Secretary to the Ministry of Transport and Civil Aviation in succession to Sir Gilmour Jenkins, who is retiring from the public service on March 31. Mr. Dunnett, who is 45 years of age, was educated at the Edinburgh Academy and University College, Oxford, and entered the Civil Service in the Air Ministry in 1936. For seven years of his service in the Air Ministry he was private secretary to the Permanent Secretary, who for six years of the period was Sir Arthur Street. The Air Ministry at that time included in its scope the supervision of civil aviation and Mr. Dunnett was concerned with wartime services and the formative years of the air corporations. In 1945 he transferred to the Ministry of Civil Aviation, being promoted to Assistant Secretary in 1946 and Under Secretary in 1948. Here he was concerned with overseas civil aviation and while Assistant Secretary acted as head of the planning branch which was mostly concerned with overseas services and facilities such as grant aid to aerodromes. As Under Secretary he was concerned with the air services branch and with international relations, including the making of bilateral agreements and negotiations with Commonwealth countries. In 1951 Mr. Dunnett was given an appointment in the Ministry of Supply as an Under Secretary, where he dealt with the aircraft industry. In 1953 he was promoted Deputy Secretary and he then dealt with the administration side of guided missiles production and electronics, as well as retaining an interest in aircraft matters. In the last two years of his service with the Ministry of Supply as a Deputy Secretary he was in charge of finance and Ministry of Supply establishments. In the autumn of last year he was translated to the Ministry of Transport as a Deputy Secretary. He was created C.M.G. in 1948 and C.B. in 1957.

LOCOMOTIVE ENGINEERS

Annual Luncheon

SALES OVERSEAS

THE annual luncheon of the Institution of Locomotive Engineers was held on February 27 in London and as usual was attended by a very large company, presided over by Mr. R. Arbuthnott. The president was supported by:—

Messrs. J. S. Tritton, A. Campbell, K. J. Cook, J. F. B. Vidal, Sir William A. Stanier, E. S. Cox, R. C. Bond, R. A. Riddles, and W. Cyril Williams, past-presidents, and Messrs. D. C. Brown, S. B. Warder, J. F. Harrison, and A. W. Manser, vice-presidents, together with Mr. R. A. Smeddle, president-elect.

The principal guest was Sir David Eccles, President of the Board of Trade, and there were in addition seven High Commissioners representing customer countries:—

H.E. Sir Gilbert Rennie, High Commissioner for the Federation of Rhodesia and Nyasaland, H.E. Tunku Ya'acob, High Commissioner, Federation of Malaya, H.E. E. O. Asafu-Adjaye, High Commissioner for Ghana, H.E. Mrs. V. L. Pandit, High Commissioner for India, Mr. B. C. Butler, representing H.E. High Commissioner for Canada, Mr. W. H. W. Maass, representing H.E. High Commissioner for Union of South Africa, and Mr. Alhaji Abdulmaliki, Commissioner for Nigeria. Other guests included Sir George Nelson, president, Locomotive and Allied Manufacturers Association, General Sir Brian Robertson, Bart., chairman, B.T.C., Sir John Elliot, chairman, I.T.E., Sir George Seel, Senior Crown Agent, and Mr. M. W. Shorter, managing director, Westinghouse Brake and Signal Co., Limited.

Help or Handicap?

Proposing the toast of the Institution, Sir David Eccles asked whether, from the point of view of the Board of Trade, the British Transport Commission was a help or a handicap to the sale of locomotives overseas? A large sum of money was quite rightly going into the modernisation of British Railways. That work generated a large amount of purchasing power, with its impact on the balance of payments.

As we could only keep the pound strong by maintaining our export trade, the British Transport Commission had as big a stake in exports as anyone. The B.T.C. was limited by having engineering works of its own, but the industry wanted opportunity to prove a piece of equipment at home before it could sell it abroad.

The Board of Trade ensured credit but did not provide it; the United States had funds to lend with much greater liberty. Here we had a good banking machine which did not require a central bank to do the job. Some orders which had gone abroad did so because foreign manufacturers were supported by seven or ten years' credit. It had been questioned whether we had to follow the members who had thus broken the rules. We had a greater stake than anyone else in the export market as a whole being conducted on reasonable credit lines.

A Case for Credit

We had made an exception for four-engined aircraft because the Export-Import Bank made the pace and we had had to match the credit given by the U.S. If there were a case for doing the same with the locomotive and rolling stock industry he would be quite willing to look at it, but he could not go on to the slippery slope of universal credit terms. The Board of Trade had the greatest regard for the locomotive industry; there was a great deal of reconstruction of transport to be done if the money could be found.

In his reply Mr. Arbuthnott said that it was a great compliment to the Institution that the President of the Board of Trade had referred to the importance of its members in the export trade. It had a very large and growing overseas membership—the Indian centre had five branches, for example. The fact that the *Journal* went to over 60 countries showed that the proceedings were of wide value. It was necessary that the railways and manufacturers should work together. Britain was first in the railway field and was still looked up to. It was not only necessary to keep up to date but to be in the lead; we felt we could do just that.

Room for Optimism

The British locomotive industry had played an important part in equipping the railways of the world, but today this needed the co-operation of British Railways as a proving and demonstration ground. Another valuable function was the training of students for overseas. A university degree was not an essential requirement for qualification in the Institution. Members were vitally concerned in the future of railways which he considered essential to this or any other industrial country. Nevertheless, while road congestion cost hundreds of millions there was yet a shortage of rail traffic. It was common sense to strike a better balance. There was much room for optimism—with ever increasing population trade and transport must be expanding. Even while he was speaking 759 children had been born. The president concluded with a tribute to the visits committee and to the work of the secretariat.

Mr. R. C. Bond, a past-president, proposing "The Guests," said that their guests might have associated the Institution with the steam locomotive only. Such a situation was many years in the past. Today it dealt with anything on rails, from motive power to vehicles. He paid a tribute to the hosts whose hospitality the members of the Institution had enjoyed during the year and especially on the summer tour to Northern Ireland and the Irish Republic. They were delighted to have with them a representative of Her Majesty's Government and the highest representatives of those who bought the products of the industry. They came from seven Commonwealth countries, representing 100,000 miles of railway and 20,000 locomotives. They also welcomed the Senior Crown Agent, Sir George Seel. Another very welcome guest was Sir George Nelson, an institution in himself.

Work of B.T.C.

The British Transport Commission was helping the locomotive industry of this country; there was a new spirit under Sir Brian Robertson and a joint technical committee between manufacturers and themselves from which they hoped for results. The B.T.C. intended that the remodernised railway system should be a model to the world.

Replying, Sir George Seel mentioned that it was his last public utterance before his retirement. The Crown Agents dated from 1833 and so had a comparable period of useful public service with the railways. In the past few years the locomotive engineers had been adapting themselves to new conditions and in the same way the Crown Agents had adapted themselves and indeed had to satisfy their customers in the same way as any other industry. He looked forward to the Jubilee of the Institution of Locomotive Engineers in 1961.

Mr. R. A. Smeddle, president-elect of the Institution of Locomotive Engineers, was then introduced by the president and replied briefly.

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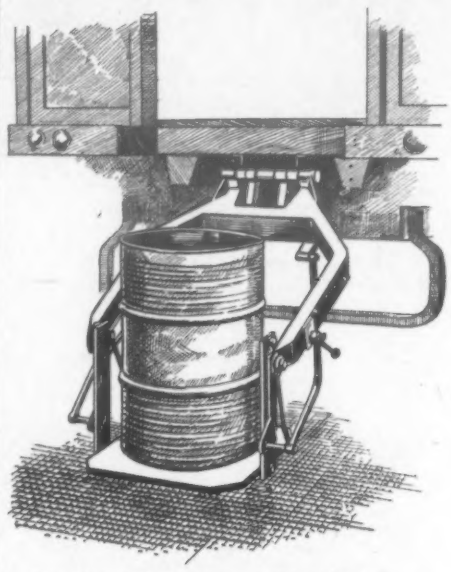
MACKANESS VERTISWING LOADER

Improved Version

AN improved version of the Mackaness 5-cwt. Vertiswing tail-loader, enabling an operator to rapidly load or unload open containers on a lorry without spilling, has been introduced by Service Engineering (Northampton), Limited, Northampton. The new hydraulically operated attachment is fitted with auxiliary stay members that provide a parallel linkage motion and ensure a stable lift at all times, irrespective of the balance of the load. This feature will be found particularly useful where fragile materials such as acid carboys are concerned.

The new Vertiswing is designed to be carried on a lorry for immediate use. The lifting platform



The latest Mackaness tail-loader has a parallel link motion to preserve horizontal stability in the load platform

measures 2 ft. 1 in. by 2 ft. 6 in. long (a 4-ft. wide platform can be supplied to order). The complete assembly is raised by a hydraulic ram system comprising a power take-off and pump unit, oil tank and ram assembly, interconnected by special rubber hose. Hydraulic oil is supplied at pressures up to 600 p.s.i. direct from the pump unit to a two-way operating valve, which is controlled by a manually operated lever fitted to the lifting platform. Power take-offs are available to fit all commercial vehicles, normal engine idling speeds being all that are necessary to operate the lifting mechanism. The entire unit can be quickly transferred from one vehicle to another, and is readily interchangeable with other Mackaness lifting attachments.

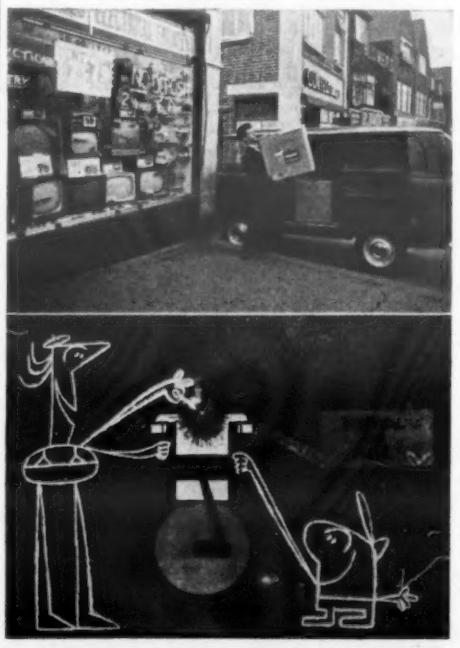
The complete Vertiswing assembly is priced at £110 ex works (extra for articulated or l.w.b. vehicles and trailers). The equipment carries a six months' written guarantee, delivery being ex stock.

★

NEW FORD FILMS

Original Treatment

NEW films produced for the Ford film library include two of outstanding originality. Made by World Wide Pictures, *Bandwagon* is an exciting way of showing off the good points of the Ford range of 10-12 cwt. and 15-cwt. vans.



Scenes from new Ford films: The ease of side loading in the Thames 10 to 12 and 15 cwt. van range illustrated in "Bandwagon" and, below, an X-ray effect used in the cartoon explaining the internal combustion engine, with two zany little men using matches for a sparking plug and operating the valves by hand

The 12-seat vehicle is used and picks up the members of the Cy Laurie jazz band, using all the door facilities, and demonstrating also ease of manoeuvre, the wheel change and even how a damaged side panel can be exchanged in the minimum of time. The *Hellzapoppin* atmosphere helps drive home the message.

Industrial Animation Films is responsible for a cartoon, *The Story of the Motor Car Engine*, illustrating the operation of the internal combustion engine in a witty manner. The message is repetitive and designed for absorption by children of all ages, apprentices and others. Both these films run for 9½ min. and are in colour. The Ford Motor Co., Limited, has also just made a 24-min. colour film of a more conventional type, *Journey for Marianne*, showing off British scenery and how a Canadian girl sees it through the windscreen of a Ford Anglia and a Prefect.

LONGMOOR MILITARY RAILWAY

A Unique Training Establishment

1—ORIGIN AND DEVELOPMENT

WRITING in 1784, the English naturalist Gilbert White described Woolmer Forest as a hungry, barren, sandy waste. This, together with its strategic position between London and Portsmouth, explains why at a later date it became an important centre of military activities. There were camps at Bordon and Longmoor before the turn of the present century, and it was this factor which led to the construction of the Longmoor Military Railway and the eventual establishment of Longmoor as the Transportation Centre (Royal Engineers).

Origins

The earliest railway activities at Longmoor began in a curious way soon after the end of the South African War, when the 53rd Railway Company was given the job of removing 68 corrugated iron huts from Longmoor to Bordon, a distance of five miles. To save the cost of dismantling and re-erection, the huts were moved bodily on two 1 ft. 6 in. gauge tramway tracks set 24 ft. apart and laid through the forest. After this successful venture the 53rd remained at Longmoor, where it was shortly joined by the 8th and 10th Railway Companies which had recently returned from South Africa.

Layout of Longmoor Military Railway

It was then decided to build a standard-gauge military railway from a railhead at Bordon, connecting with the terminus of the London and South Western Railway's branch line from Bentley, to Longmoor Camp. Work commenced in 1905, and to facilitate the transport of working parties from Longmoor the existing 1 ft. 6 in. gauge lines were regraded with a single track and equipped with three 0-4-2 tank engines.

A Level Crossing

At that time the line crossed the Farnham and Petersfield road on the level at Whitehill, but when the standard-gauge line crossing was requested permission was refused. As a result of this the line between Whitehill and Longmoor was constructed on a dual gauge to enable the through traffic to be ferried over the main road with the transhipment to the standard gauge on the Bordon side. By this expedient the line reached Longmoor in 1907 and was linked with the engine shed and workshops which had already been constructed. Through standard-gauge working was effected in 1908-09 by the provision of a temporary level crossing on a better alignment; but the final solution was to take the railway under the road by means of approach cuttings—a considerable work which was nevertheless carried out entirely by the three Longmoor companies.

Change of Title

Although originally known as the Longmoor Military Railway, this title was changed in 1906 to the Woolmer Instructional Military Railway to emphasise that its primary purpose was training. Finally the original title was resumed in 1935. During the 1914-18 war, Longmoor became the depot and training establishment for all railway troops, including the newly formed Railway Operating Division.

The facilities were greatly extended with working lines totalling well over a hundred miles, and included an instructional branch from Whitehill which could be demolished and relaid without interference with the main line. This led to a bridging site at Hollywater, and now forms a part of the Hollywater Loop; this was put in at a later date to provide experience with continuous running and footplate manning over long periods of several hours.

Between the Wars

After the close of the 1914-18 war, the significance of railway operating as a matter of military import was fully recognised, and at Longmoor the rehabilitation and improvement of the line was undertaken from 1920 onwards. Track materials, machine tools, rolling stock and other equipment recovered from France were put to this purpose. The workshops were extended and remodelled, and a lifting shed with beam jacks and a wheel drop was added. The entire main line through to Bordon was relaid with 75-lb. rail and in part doubled, with a short branch to Cranmer Pond to permit training in pile driving and bridging to take place there.

On the operating side, the line was fully signalled with various types of apparatus, and a new signalling school building, with a very fine model training railway which occupies the entire first floor, was built in 1934. The extension 3½ miles southwards from Longmoor to Liss was begun in 1930 and completed in 1933, with an intermediate halt at Liss Forest. The connection with the Southern Railway and the exchange sidings date from 1942.

Figures for 1933 shew that at that time the railway was operated by a peacetime establishment of 22 officers and 385 other ranks, whilst the Supplementary Reserve consisted of 54 officers and 2,862 Category A and C other ranks distributed between four companies. Thus in 1939 the Transportation troops available for active service numbered about 4,000—a figure which hardly suggested that within the next few years no fewer than 6,960 officers and 131,000 men would pass through the camp for training, or as drafts and reinforcements.

The Recent War

In addition to its training activities Longmoor became an important Transportation Stores Depot. Beginning in 1942 with a staff of 154 and 1,500 tons of stores, this grew by D-Day in 1944 to an establishment with nine sub-depots occupying an area of 150 acres, and a staff of 1,500 holding 170,000 tons of stores. This involved a considerable increase in the size of the L.M.R. and its traffic. The operated track mileage rose from 18 (in 1939) to 70, and the Hollywater Loop, with facilities for continuous running over a six-mile circuit, was completed in 1942.

At times there were 27 engines in steam, and altogether the engine-miles run during the war years totalled 1¾ million. In the same period 6½ million passengers were carried, and in 1944, which was the busiest year, 602,000 tons of freight were exchanged with the Southern Railway at Bordon and Liss. To cope with this vastly increased traffic, the workshops and motive power depots were further extended, new signalboxes (including the up-to-date 54-lever box at Longmoor Downs) were built, and a variety of additions and improvements to the existing track layout were made. Due to the continually fluctuating demands to which the railway is subject, some of these have now been swept away, whilst others, such as the extensive exchange sidings and connection with the British Railways at Liss, remain today as a rather forlorn reminder of their former usefulness.

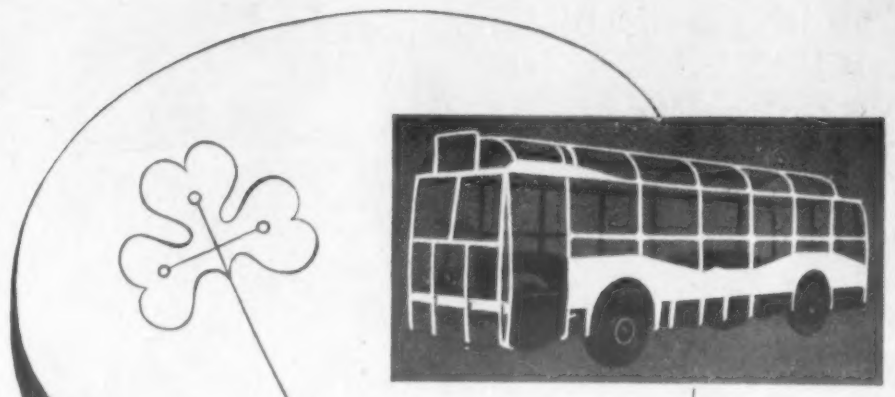
With the return to peacetime conditions, much of the activity which characterised the railway during the war years has disappeared. There is still traffic amounting to about 200 tons a day in connection with the big supply depots, and an incoming and outgoing freight each day over the B.R. Bordon branch is sufficient to cope with this. This branch is the supply line for almost all through traffic between the L.M.R. and British Railways. The Liss connection is seldom used, as to do so would cause some interference with the intensive electric services on the Portsmouth main line.

Peacetime Training

With this general decline in depot traffic the L.M.R. may now be considered as returned to normal—that is, to its regular peacetime training activities which are administered from Longmoor by the Headquarters of the Transportation Centre, Royal Engineers. The camp, which has now assumed the proportions of a small town, also houses the Army Movement Control School, and the headquarters of training in port operation and inland water transport, whose principal depot is at Marchwood on Southampton Water. In addition it is the headquarters of the Army Emergency Reserve (Transportation and Movement Control) which trains here during the summer months.

(To be continued)

The 54-lever box at Longmoor Downs with 2-8-0 No. 400 on train for Liss; Wickham railcar at Bordon exchange sidings; below, the bridging site; and, right, the former London and North Western inspection saloon on the Longmoor Military Railway



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ALL-METAL FRAMINGS

From Belfast to Bombay, in fact, to all corners of the world, flow the Lightweight All-metal Framings manufactured by Metal Sections, Ltd. Designed to individual requirements, they are supplied fully fabricated, and ready for speedy assembly and finishing.

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ANOTHER RECORD

Mr. E. R. Lewis (Chairman) at the Annual General Meeting of The Decca Record Company Limited:

Balance from Trading Account for the year to 31st March, 1958, amounted to £2,952,539, an increase over the previous year of £563,171. The net profit amounted to £930,984, an increase of 60 per cent.

Consolidated turnover at £20,950,000 was £3,900,000 greater, having increased by twenty times since 1946.

Exports reached the record total of £5,320,000 including £1,350,000 to the U.S.A. and Canada.

Production and sale of records were greater than in any previous period, the company maintaining its share in total industry production.

Decca Radar had a good year and Decca Navigator a record one for new hirings.

Radar and Navigational Aids

CURRENT YEAR

Despite somewhat lower sales in the record industry the Company had managed to keep its sales slightly ahead of those of the previous year.

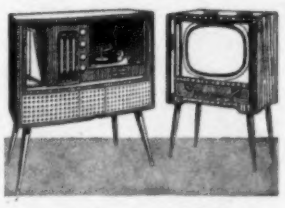
The radio and television department had made further progress.

The last eleven months had been a period of exceptional achievement in the Navigator business. Hiring contracts and sales of receivers now totalled over 5,500, having almost doubled over the last four years.

Radar business continued to progress. To date over 8,000 Decca marine radars had been sold and hired representing nearly 50 per cent of radar-fitted ships.

Results for the current year should again be very satisfactory and the Company could look forward to continued progress in the varied fields in which they were engaged.

The Report was adopted and the total dividend of 2/- for the year approved.



Stereograms and T.V.

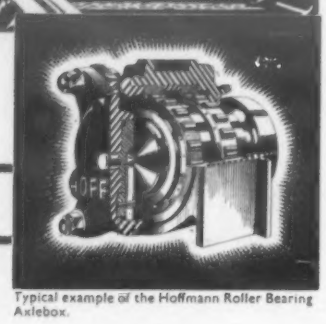
DECCA

DECCA HOUSE · ALBERT EMBANKMENT · LONDON, S.E.11

ONE OF TWENTY
1250 HP AIA-AIA DIESEL ELECTRIC LOCOMOTIVES
built by BRUSH TRACTION LTD
to the order of the British Transport Commission, for use on the Eastern Region

OH YES

HOFFMANN parallel ROLLER BEARING AXLEBOXES are in the picture



Typical example of the Hoffmann Roller Bearing Axlebox.

It is admittedly difficult to trace them in the deep shadows of the underframes, but they are there on all six axles, whilst completely hidden from view, are the roller bearing axle suspension sleeves of the traction motors. Both are in the limelight of railway glory, for their extreme reliability, negligible upkeep costs and long life; they are in fact, almost wearless.

THE HOFFMANN MANUFACTURING CO. LTD., CHELMSFORD, ESSEX

ROAD VEHICLE INDUSTRY

Mobile Heating Showroom

IN order to give dealer demonstrations of oil heating equipment throughout Britain, the Valor Co., Limited, has put in service a mobile showroom based on a Karrier Bantam 10 ft. 2 in. wheelbase chassis. The vehicle is equipped with a special Luton type light alloy body constructed by Wilsdon and Co., Limited, Solihull. Entry to the body interior is by means of double hinged doors at the front nearside and rear, folding steps being fitted for easy access. The design of the steps for the nearside front doors is such that when in the down position, the vehicle cannot be started. The demonstration equipment, which is carried on a raised platform running along the offside of the vehicle, includes an oil fluid boiler, space heaters and oil burners. One of the units is fitted to a hot water boiler connected to a 20-gal. tank fitted in the Luton compartment above the cab. So that the boiler can be demonstrated a stainless steel sink is incorporated.

Waste gases from the oil-fired equipment are ducted by means of chimneys to a ventilating tunnel built into the body roof where a 12-volt electric fan is installed to provide a forced draught. Interior fluorescent lighting has been installed and ventilation is by Vent Axia ventilators. A battery capacity of 185 amps is available, the batteries being carried under the space formed by a bench seat running along the nearside of the body. To ensure that they are in a constant state of charge, a built-in charging unit is incorporated which can be plugged into the mains. If mains supply is not available, the batteries can be maintained with the aid of a petrol generating set carried on the vehicle.

Useful Parts Lists Available

RECENTLY Pilot Works, Limited, commissioned a number of illustrated parts lists and servicing instructions for the benefit of its many customers. It has now been decided that these lists would be of considerable value to all known and unknown users of Pilot tipping gear. They are now available free of charge from Pilot Works, Limited, Manchester Road, Bolton.

Repairs to Plastics Coachwork

NEW service announced by the Automobile Plastics Co., Limited, of 62-64 High Street, Barnet, Herts, is the repair of glass-reinforced plastics coachwork for the trade and public. The company has already carried out a number of these repairs and is convinced that most of the damage likely to be caused to glass-fibre laminations can be repaired quite quickly, cheaply and satisfactorily, without in any way weakening the structure.

Simms Extends Manchester Branch

EXTENSIVE alterations which have recently taken place at the Manchester branch of Simms Motor Units, Limited, are now complete, giving this company a most up-to-date diesel and electrical repair depot. The repair shops are fitted with the latest test equipment, while the improved office accommodation, large garage and general amenities all augment the efficiency of the organisation. Two more of the 18 Simms branches throughout the country are being completely rebuilt and it is hoped to announce their official opening later this year.

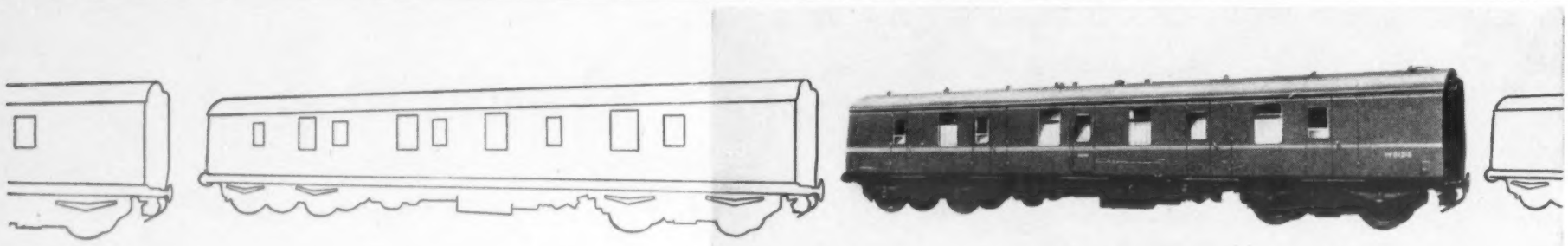
Components for Nigerian Trade Centre

HEAVY vehicle components which have formed part of exhibition displays in Britain and on the Continent have been presented by Guy Motors, Limited, of Wolverhampton, to the Nigerian Government Trade Centre in Kano, where they will be used for instructional purposes. The units, which are partly sectioned, include a rear axle and gearbox and a constant-mesh gearbox similar to those fitted in Guy lorries and buses. They will be used to provide practical instruction for automobile engineering apprentices.

Elapsed Time Indicators

FOR some time Cass and Phillip, Limited, has been co-operating with atomic energy, aircraft and industrial authorities in adapting the design of its elapsed time indicator to make it a completely sealed, insulated and waterproof unit. This widens considerably the range of its applications. The instrument registers the true operating hours of a vehicle or a machine, information which is invaluable when assessing maintenance requirements. In addition, knowledge of the load or utilisation factor of machine tools, fork-lift trucks, and production equipment of all kinds can help in working out the most effective methods of daily operation. Apart from being completely sealed against ingress of water and dust, the instrument movement is electrically insulated from the case and, therefore, the case does not provide a connection to earth as on earlier models. Elapsed time can easily be read in hours and minutes to the nearest 15 sec., and timing accuracy is better than 15 sec. in 24 hr.

The basic timing mechanism remains the same, but improvements have been made in general construction. As an example, the drive between the centre shaft and the hour counters was previously by means of a 1 : 1 reduction gear, causing unnecessary friction and loss of energy. Now the drive is taken from the centre shaft to the hour counters, and the latter are located just above the left centre of the instrument dial instead of at the base. To meet the demand for an hour meter suitable for use on agricultural and industrial tractors, a special version is available. The principal difference between the traction hour meter and the standard type of improved elapsed time indicator is that the inertia in the balance assembly gives an overrun of about 7 sec. when the current supply is interrupted. This does not affect the time indicated as there is insufficient torque to drive the hour counters when current is switched off. A direct hour reading is taken off the hour counters and a rotating device is provided to show when the meter is functioning.



The 58-foot Gangwayed Standard Brakevan, supplied by Pressed Steel to British Railways.

A train 300 miles long

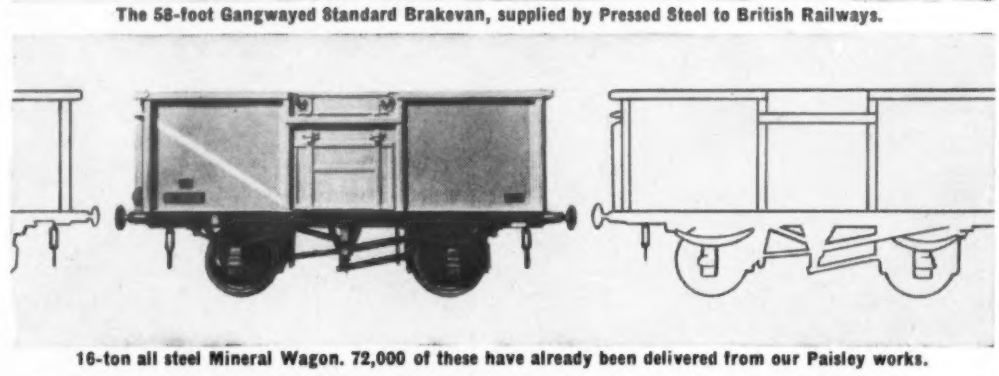
In the last eight years, Pressed Steel have produced enough railway rolling stock to make a train over 300 miles long. Rolling stock of all types, for all gauges, at home and overseas. You see some of these wagons and carriages opposite.

Clearly, Pressed Steel have enormous productivity. Their record shows it. But what the figures do not show is the store of experience built up by our designers and engineers over the last 300 miles of rolling stock. At Pressed Steel we use this experience to make sure that each wagon we produce is a sound engineering job, that it is produced as economically as possible, and in an absolute minimum of time. And we use this experience in intensive research, which will enable us to play our part in developing new and better carriages and wagons in the future.

PRESSED STEEL COMPANY LIMITED

RAILWAY DIVISION, PAISLEY, SCOTLAND.
London Office: RAILWAY DIVISION, 47 VICTORIA STREET, LONDON, S.W.1
Head Office: COWLEY, OXFORD.

Manufacturers also of motor car bodies, Prestcold refrigeration equipment and pressings of all kinds.



16-ton all steel Mineral Wagon. 72,000 of these have already been delivered from our Paisley works.

21-ton Hopper-type Wagon with drop bottom door for minerals, as used by British Railways.

Broad-gauge Covered Wagon type C.R., as used by Indian Railways.

UNDERGROUND STATION RECONSTRUCTED

Notting Hill Gate Goes Sub-Surface

CENTRAL-CIRCLE LINE INTERCHANGE

REPRESENTING the largest station reconstruction undertaken by London Transport since the war, the new Notting Hill Gate, serving the Central and Circle Lines, was brought into use on Sunday, March 1. Only relatively minor work remains to be done, notably driving of a third and final escalator shaft to serve the Central Line eastbound platform and the pedestrian subway and lavatories beneath Notting Hill Gate. Built at a cost of £1 million, the new sub-surface station links the two lines by a joint ticket hall beneath the road and gives direct interchange facilities by a subway at a lower level. Previously, the two million Underground passengers who change from one line to the other every year have had to cross the busy main road of Notting Hill Gate on the surface.

The main parts of the scheme now in public service comprise the ticket hall along with the pave-

This view at the head of the top flight of Central Line escalators at Notting Hill Gate reveals the curved plastics roof treatment, while the asbestos panels and lighting recesses in the booking hall ceiling are also visible

ment entrances on the south side of Notting Hill Gate, an interchange subway between the two lines, the two main flights of escalators, and fixed stairs to the eastbound Central Line platform. The third and lowest flight of escalators already referred to will be brought into use in the late summer of 1960. The pavement entrances on the north side of Notting Hill Gate and the public subway beneath the road will come into use at the end of 1959. From Sunday passengers have been using the new ticket hall to reach either the Circle or Central Lines and are able to interchange between the two lines without coming up to street level. Demolition of the Central Line surface station building can now commence. Under a London County Council plan, the road at this point is being widened to 60 ft., and the station rebuilding scheme is being carried out in association with the L.C.C. work.

Entrances to be in Frontages

The new ticket hall lies partly under the widened road and partly inside the new building line. Passengers reach it from the street by four stairways, two on each side of Notting Hill Gate. These entrances have temporary coverings at present, but will eventually be incorporated into the frontages of the new buildings to be erected. From the ticket hall there is direct access by stairways to the Circle Line and by two flights of escalators to the westbound Central Line. A short stairway leads from the level of the westbound Central Line down to the eastbound Central Line, which is about 16 ft. lower, owing to the need in 1900 to retain the tunnels within the width of the street above. The third escalator shaft replacing this temporary staircase will cut through a former lift shaft. From a middle landing between the two upper flights of escalators an interchange subway 200 ft. in length runs to two stairways giving access to the Circle Line platforms.

The two escalators of the top flight are operated by 40-48 h.p. electric motors by Laurence Scott and Electromotors, Limited, and run at a fixed speed of 120 ft. per min. The down escalator of the middle flight is operated by a similar motor and also runs at a fixed speed of 120 ft. per min. but the up escalator, operated by a Lancashire Dynamo motor of 40-20 h.p., is fitted with speed-ray control which allows it to run at an idling speed of 60 ft. per min. when not in use by passengers. As soon as a passenger steps on, it automatically accelerates to 120 ft. per min. Both the machines in the lowest flight will be fitted with speed-ray control. They will be driven by 20-10 h.p. Lancashire Dynamo motors. All the escalators at this station will have satin finish aluminium panelling and will be the first machines on the system to be panelled in this way.

Tunnel Ventilation

Use will be made of the two lift shafts no longer required to the Central Line platforms for ventilation, which will be carried out by a pressure system to be operated by a fan in the disused stair shaft and a draught relief fairway via the lift shaft. The pressure system entails the construction of two tunnels connecting the lift shaft to the eastbound and westbound Central Line tunnels. These tunnels will be 240 ft. and 170 ft. in length respectively. A construction access tunnel linking two sections of the middle landing has also been retained as part of the pressure relief system. The openings to this tunnel are seen in the escalator landing, but have been masked with decorative grilles.

The booking hall has mass concrete walls 4 ft. thick and a similar floor 3 ft. thick, the roof and floor acting as struts to the walls. The portion of the roof under the road is of steel beam construction with concrete filling between and is designed to carry the heaviest British Standard road loading. The part of the roof which will lie under the future buildings is of steel troughing covered in concrete, and is designed to carry a uniform floor loading of 100 lb. per sq. ft. The main beams in this area are designed to carry the weight of the future buildings above.

Engineering Features

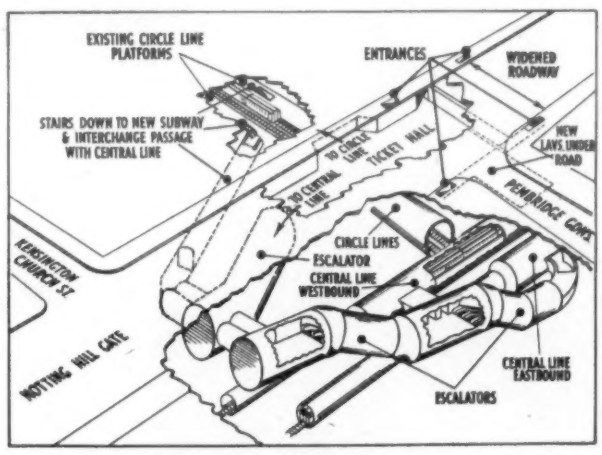
The most difficult engineering problem encountered was that of underpinning the walls of the Circle Line station to permit the construction of the interchange subway which passes beneath them. The two brick walls are 30 ft. high and one of them supports five girders carrying a street over the railway. About 50 ft. of wall had to be underpinned. The interchange subway passes under the Circle Line tracks. These were supported on temporary steel beams to allow the subway to be built without interference to rail traffic. Another problem was the construction of the ticket hall over the Circle Line tracks which are 27 ft. below the street level in Notting Hill Gate, leaving restricted depth for the construction of the ticket hall. This was only made possible by demolishing the upper part of the brick arch over the railway tracks. To permit this to be done without interference to rail traffic a shield on steel ribs had to be erected within the arch. This shield required careful design because of the small amount of room available in the tunnel.

A main 5-ft. brick sewer which passed through the site of the middle escalator tunnel was diverted before the war, but under the original part of the roadway of Notting Hill Gate were six water mains of 30-36 in. diameter and three gas mains, two of 14 in. and one of 24 in. diameter, as well as a number of smaller pipes and G.P.O. and electricity cables. These had to be diverted and realigned to allow the new subway to pass beneath them and the roof of the subway had to be carefully designed to keep the pipes as low as possible. Special measures had to be adopted to avoid damage to existing tunnels. The tunnel for the middle flight of escalators passes close to the Central Line tunnels, approaching as near as 4 ft. in two places. Additional timbering was employed at the working face and continuous working in three 8-hr. shifts a day was adopted in this escalator tunnel.

Plastics Roof Lining

The design of interior finishings is a complete departure from previous Underground station practice and special precautions have been taken to prevent water seepage through ceilings and walls. The materials are chosen to give a contemporary look as well as to avoid expensive maintenance and walls are finished in high gloss tiles of contrasting shades. Ceilings to escalator and landing tunnels are of Flexine curved plastics sheets with aluminium cover strips. These plastic sheets are self-coloured and vary at different levels in a mottled pattern of three shades, grey, pink or yellow. Flat ceilings are of 2 ft. square white asbestos V-jointed boards into which the fluorescent light fittings are recessed behind "egg-crate" grilles. Floors are finished with 12 in. by 12 in. concrete tiles of buff and green.

The curved ticket office front is faced with a green and blue patterned plastics sheet below counter level with reeded glass in aluminium framing above. Behind the ticket office are staff rooms, including an office for the stationmaster. Barriers in the ticket hall are in aluminium and the ticket collectors' boxes are of aluminium framing with panels of plastics sheet and glass in harmony with the ticket office front. The ticket hall contains a bookstall, tobacco kiosk and public telephone booths.



Layout of the rebuilt Notting Hill Gate Station

The civil engineering work is being carried out to the requirements of Mr. C. E. Dunton, chief civil engineer, and the architectural work to the requirements of Mr. Thomas Bilbow, architect, London Transport. The consulting engineers are Messrs. Mott, Hay and Anderson and the civil engineering contract is in the hands of Balfour Beatty and Co., Limited. The building and finishing contract is being carried out by L. and W. Whitehead, Limited. The escalator equipment is being supplied to the requirements of Mr. A. W. Manser, chief mechanical engineer (railways), London Transport, by the Otis Elevator Co., Limited.

The total cost of the scheme, the £1 million already referred to, covers also the tiling of the passages leading to and the platform headwalls of the Circle Line station. It is proposed also to retile the platform walls of the Central Line station at a later date.

From March 14 the head office address of Thos. Parsons and Sons, Limited, will be Church Road, Mitcham, Surrey (telephone, MITcham 4444).

FOR BRITAIN'S NEW MOTOR ROADS

IN keeping with the advanced techniques employed in the vast Road Developments now taking place all over Britain, the new Bedford 7 ton Dumper fitted with Pilot Standard U10D Tipping Gear fits right in the picture.

All-Electric Welded Heavy Duty Steel Bodies of approximately 6 cub. yds. capacity, Cab operated Tipping Gear with a Tipping Angle of 55° and a low initial cost makes this the perfect investment for the exacting requirements of a Middle Range Dumper. Tax free on or off the road.

Bodywork to Standard or Individual requirements can be supplied in Alloy, Steel or Wood

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PILOT Hydraulic Tipping Gear

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Photos before and after resignalling, taken at Cowlairs by courtesy of British Railways, Scottish Region.

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PUBLICATION

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The Flying Tigers

(Continued from page 3)

bankrupt the air freight lines even before the Board could rule on the certificate applications, imposed a floor under the rates—setting minimum rates which no certificated carrier dare undercut. This was followed, a year later, by the decision awarding the certificates, again despite massed opposition of the passenger lines—the first freight certificates awarded by the C.A.B. since the Civil Aeronautics Act became law in 1938. The occasion marked the recognition of an entirely new transport field, and it is significant that out of the four freight airlines given certification in 1949 only the Flying Tiger Line still provides the same type of service.

Extent of Activities

The airline moved rapidly to consolidate its position. Within a year the fleet had been quadrupled and the system terminals increased from six to 30. Annual gross revenues jumped from $500,000 in 1946 to $25,000,000 in 1952. While the development of air freight continued to command the greater part of the company's attention, there proceeded apace a substantial development of two other fields—contract operations and outside maintenance. The former now provides the major share of the company's revenues. On the other hand, outside maintenance, once an important source of revenue, has dwindled as the line's fleet has grown and the need for concentration of maintenance effort on its own aircraft has become greater.

Restricted by the terms of its certificate to non-passenger operations on the mainland (except for military and other charter work), the airline has most successfully exploited the world-wide need for contract services. Large-scale movements of displaced persons have been undertaken between Europe and the United States, South America, Australia and the Far East. One movement of Yemenites to Israel involved more than 35,000 people. For several years thousands of farm labourers have been transported from Mexico and Puerto Rico to the United States, and more thousands of illegal immigrants flown back to Mexico. The carriage of tourists, teachers, students, church and employee groups to Europe on holidays or cultural visits has also grown into a major operation, under the terms of which qualifying groups charter an entire plane. In the summer of 1957 the seasonal total of such persons to Europe alone amounted to 16,000, and the gross revenues from the business ran into millions of dollars. In the fiscal year ended last June, 103,459 passengers and 5,262 tons of cargo were carried across the Atlantic and Pacific.

Fleet

Throughout its relatively short life, the airline has been constantly alert to the continuing need for more and better equipment. The line was among the first to use four-engined equipment, so that it could carry more, cheaper and faster. It pioneered the development of fast transcontinental services when it acquired a fleet of Douglas DC6A aircraft, and then, in 1957, moved ahead of all competition by switching over to the even bigger, faster Lockheed Super-H Constellations. These are now operated exclusively within the United States by the Flying Tiger Line, which brought 12 of them at a cost of $28,000,000. With this class of aircraft the company is able to fly 21½ tons at 331 m.p.h. The total fleet today comprises 14 1049H Super Constellations and six Curtis Commando C46 freighters, but within the next two years the company expects to re-equip completely.

So, only a decade or so after its founding at the end of the 1939-45 war, the Flying Tiger Line has achieved the position of world's largest freight and contract air carrier. Its business volume, a mere $500,000 in 1946, is now nearing the $40 million mark. Common carriage air freight traffic in October of last year alone amounted to $1,227,000, or almost as much as in the first complete year of certificated operations.

In 1949 the principal sources of traffic were flowers, all the year round from the west coast, and fashions, seasonally in both directions. Now, although the traffic in flowers and garments has increased considerably, the main source of business lies in industrial machinery and parts. Today, to quote one example, the Boeing Airplane Company is moving, by Flying Tiger, engines from the Pratt and Whitney factory in Hartford, Connecticut, to its own plant in Seattle to complete outstanding orders for its 707 planes—at an estimated saving of $750,000 on the whole order.

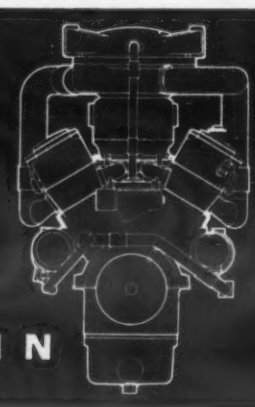
Manifest System

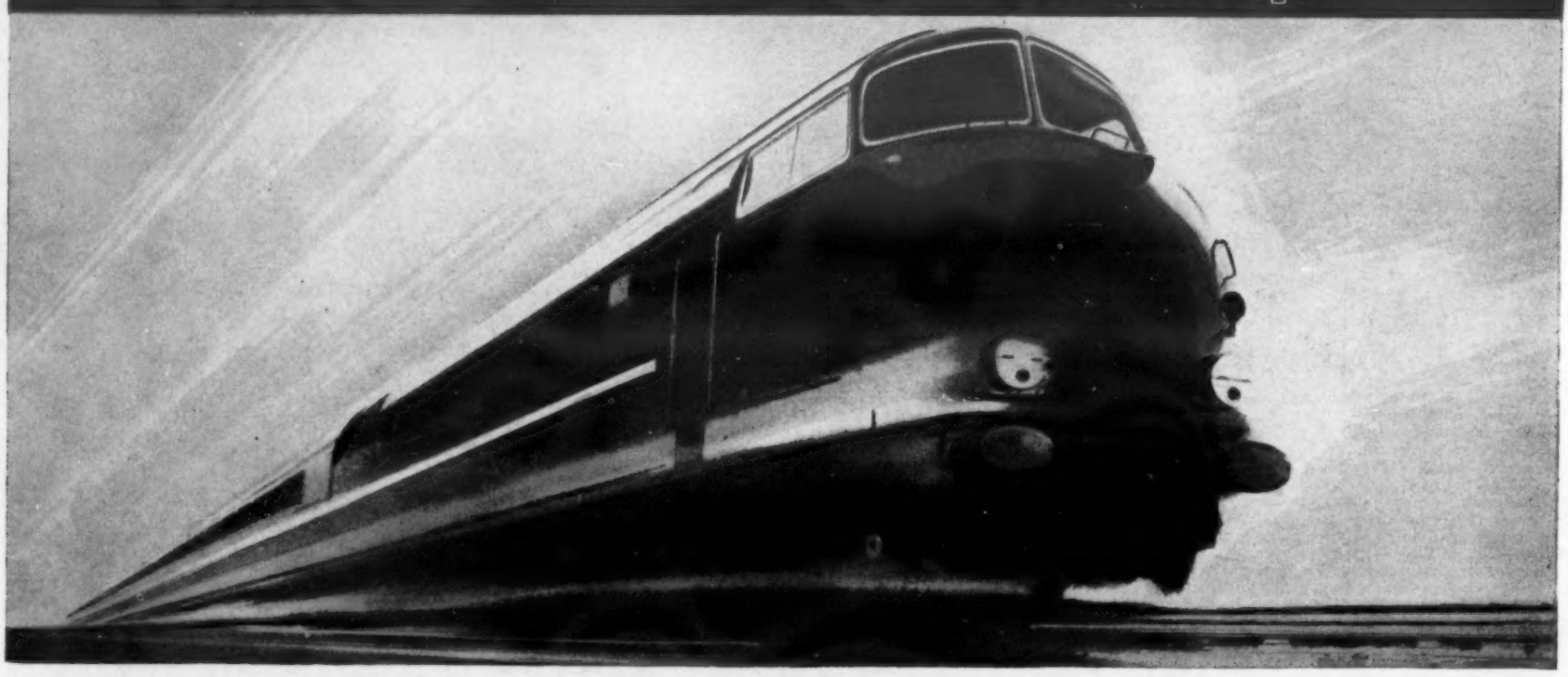
Ever alert to find better methods, the airline developed an advanced manifest system, whereby the moment a plane departs the exact manifest is transmitted, by means of a 24-hour teletype service, to every station on the route. This, coupled with radio-controlled pick-up trucks, gives shippers both door-to-door service and full knowledge of the exact location of his shipment at any time during the flight. The air freight business has, however, been beset with difficulties from the start. It is not only the newest field of goods movement, it is also the highest-priced. It has required a tremendous amount of public education which is yet far from complete. At the same time the competition has been most keen. Such factors in February, 1958, forced the withdrawal of the airline's scheduled all-freight competitor, Slick Airways. Yet, despite the general business slump earlier this year, May saw the Tigers' freight business turned into a profitable operation.

A factor which will have a considerable effect on the company's future is the Congressional approval, last August, of the 1959 Military Appropriations Bill, which earmarked $80 million to be spent by the Military Air Transport Service only for *commercial* transportation. M.A.T.S. is the U.S. Air Force agency which handles contract transport; over the past few years it has grown into a huge civilian-type worldwide airline system. While commercial airline companies have for long contended that the government should curtail its airline operations ("get the government out of business" as the saying goes), the military have strenuously opposed this on grounds that it requires a large standby airlift in case of emergency and having got it might as well use it. The latest figure of $80 million represents a gain to commercial airline business of $23 million in the coming year. The Flying Tiger Line is, therefore, in a good position to achieve full fleet utilisation during 1959.

MAYBACH POWER

COMES TO BRITAIN





Armstrong Siddeley are now manufacturing under licence a range of diesel engines from 220 to 2,000 b.h.p. rail traction rating developed by the world famous German firm of Maybach, who have had 35 years experience in the manufacture of diesel traction units. Armstrong Siddeley Maybach diesel engines are currently being introduced into British Railways Western Region as part of their modernisation programme.

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SOCIAL AND PERSONAL

M.P.T.A. 1959 Conference

DETAILS of the draft programme for the annual conference of the Municipal Passenger Transport Association, to be held in Edinburgh on September 21-25, have now been announced. The business sessions are on September 22-24. On the afternoon of September 22, a visit will be made to the works of Walter Alexander and Co. (Coachbuilders), Limited, at Falkirk, and on September 25 the B.P. ocean terminal at Finnart, Loch Long, will be visited. The Esso Petroleum Co., Limited, is also providing hospitality. It has been decided this year that that part of the proceedings of the annual general meeting when the president for the following year is elected will not be in private as hitherto. The president for 1959-60 will be elected on the morning of September 25.

* * *

We regret to record the death, in Canada, at the age of 63, of Sir Walter Shepherd, chairman of Turner and Newall, Limited.

* * *

At its meeting on March 12, the London Midland Region Lecture and Debating Society is to hear a paper by Sir Brian Robertson on "Railways—Their Past and Their Responsibilities." Mr. David Blee, general manager of the L.M.R., will be in the chair.

* * *

Mr. C. N. MacKay, appointed public relations and publicity officer, Scottish Region, B.R., had been assistant to general manager (public relations) since June last year. Before that, since 1951, he had held a B.B.C. staff appointment as Scottish news observer, and he was also for some time on the London staff. Mr. MacKay left an honours course at Glasgow University—reading English language and literature—to join the *Scottish Daily Express*. In the R.A.F. during the war he became a chief controller in operations. For many years he was a regular broadcaster in Britain and to countries overseas, and he was the first to read television news in Scotland. He has reported most royal visits since the war, travelling in the royal entourage, and interviewed many public figures on television.

Mr. C. N. MacKay

* * *

Mr. F. P. B. Taylor, general assistant to commercial officer, Waterloo, has been appointed commercial officer, Southern Region, B.R., from February 23, vice the late Mr. G. Wynne Davies.

* * *

At its last meeting the board of the Railway Benevolent Institution granted annuities involving an additional liability of £214 per annum; gratuities were also granted amounting to £906 15s. to meet cases of immediate necessity.

* * *

Mr. F. L. Willis, M.B.E., has retired as managing director of Hunting Aerosurveys, Limited, after 39 years in the field. He will remain on the board. His successor is Mr. T. D. Weatherhead, O.B.E.

* * *

Appointment of Mr. P. F. Grant, senior assistant to the regional accountant, Western Region, Paddington, to the position of assistant regional accountant, North Eastern Region, B.R., is announced. He entered the service of the Great Western Railway in 1921 in the parcels audit office.

* * *

Mr. David Blee, C.B.E., M.Inst.T., general manager, London Midland Region, B.R., and a vice-president of the Institute of Transport, will be the speaker at the meeting of the Institute arranged for March 9 at 66 Portland Place, W.1, when he will present for discussion a paper "Aspects of Railway Management." The meeting will be open to visitors, without ticket.

* * *

We regret to record the death of Mr. R. F. Smith, who was general manager of Glasgow Corporation Transport Department from 1937 until 1943. Mr. Smith was said to be the last survivor of the original staff of the department which began operations in 1894, when the city assumed ownership of the tramway services. He served as accountant, traffic superintendent and deputy general manager before his appointment as general manager.

* * *

Mr. F. R. L. Barnwell, O.B.E., E.R.D., M.I.C.E., district engineer, Newport, has been appointed assistant engineer (works maintenance) to the chief civil engineer, Western Region, B.R. Mr. Barnwell entered the service of the L.N.E.R. in 1926. He served at Inverness, Scottish Region, as district engineer from 1951 and, in 1952, transferred to Shrewsbury, Western Region, in the same capacity. In March, 1954, Mr. Barnwell was appointed district engineer, Newport, the position he now vacates upon his new appointment.

* * *

We regret to record the death, at the age of 59, of Mr. Fred Rowarth, F.R.Ae.S., executive director and general sales manager of the Automotive Products Co., Limited, the Borg and Beck Co., Limited, Lockheed Hydraulic Brake Co., Limited, and Lockheed Precision Products, Liverpool. Educated at Christs Hospital, he became a well-known figure in the aircraft industry and was chief engineer of the Aircraft and Armament Experimental Establishment at Martlesham and later at Boscombe Down. He joined Automotive Products in 1945 as general sales manager and became an executive director in January, 1956.

* * *

Lord Chandos, chairman of Associated Electrical Industries, Limited, has returned after a five-week tour of Latin America where he had talks with presidents, ministers of finance and economy and bankers in Brazil, Venezuela, Argentina, Chile, Mexico and Peru. Through Metropolitan-Vickers and B.T.H., A.E.I. has had a long trading association with Latin American countries and one of the purposes of this visit was to determine how far this could be extended. Lord Chandos visited the site of the Greater Buenos Aires power station, for which A.E.I. is supplying the engineering plant, transformers, switch gear, etc. He also inspected the company's traction motor repair factory at Belo Horizonte, Brazil.

The late Sir Maxwell Hicks

WE regret to record the death, at the age of 80, of Lieut.-Colonel Sir Maxwell Hicks, C.B.E., who was chairman of McNamara and Co., Limited, until its nationalisation in 1948. He was also a director at that time of the subsidiary, Fred Cook (Transport), Limited, of Hull. Sir Maxwell Hicks, a chartered accountant, was appointed receiver and manager of McNamara in 1913 and succeeded in turning its heavy losses into what was described as a substantial profit. When the receivership came to an end in 1921 the company was reconstructed and he became chairman and Maxwell Hicks and Company, chartered accountants, became its commercial managers. He was made a member of the Inland Transport War Council which was formed under the chairmanship of the Minister of Transport in 1941 to "co-ordinate all forms of transport" to secure their help in the prosecution of the war. It was to advise the Minister on means to this end.

* * *

Mr. C. E. Jordan, M.Inst.T., chief transport officer, T.I. Group Services, Limited, announced last week that he is to retire from that position on March 31, but he will continue to act in a consultative capacity to the company. He intends to relinquish his activities on behalf of the T.R.T.A.

* * *

Mr. A. C. J. Payne, O.B.E., M.M., E.R.D., who was recently appointed district traffic superintendent, Southampton, Southern Region, B.R., as from April 1, entered the railway service in 1919 after active service. He was appointed assistant to the Western divisional superintendent, in 1934, and in 1937 transferred to a similar appointment in the London Central Division. From 1928 to 1934 Mr. Payne was instructor in signalling, rules and regulations at the S.R. Training School, then situated at East Croydon, and he also lectured at the University College of Southampton on railway operating. As a member of the Supplementary Reserve he was called up at the outbreak of the 1939-45 war and served on the movements and transportation side of the Army in France, Egypt, Palestine, Syria, Iraq, Italy and Belgium, being promoted to the rank of colonel early in 1943. In the New Year Honours List, 1942, he was awarded the O.B.E. (Military), and in the same year, while on active service, he was promoted assistant divisional superintendent, London East Division. After serving as principal of the residential training college at Woking, from its inception in 1946 until 1950, Mr. Payne was attached to the Southampton district office until July, 1952, when he was appointed assistant district traffic superintendent, Orpington, responsible for the commercial activities of the district. In October, 1958, he was appointed freight assistant, line traffic manager's office, South Eastern Division, which position he now vacates.

Mr. A. C. J. Payne

* * *

Mr. W. M. C. Scott, stationmaster, Glasgow Central, Scottish Region, B.R., is to retire on March 21.

* * *

Mr. J. R. Hammond, M.B.E., B.Sc.(Eng.), A.M.I.C.E., assistant general manager (modernisation), Western Region, British Railways, has been appointed to succeed Mr. K. W. C. Grand as general manager with effect from March 5.

* * *

Mr. Edward P. Connolly, F.I.B.C.M., director of Connolly Bros. (Curriers), Limited, has been elected president of the Institute of British Carriage and Automobile Manufacturers in succession to Mr. Harry W. Light, F.I.B.C.M., a director of Thrupp and Maberly, Limited. Mr. C. W. Ward, director and general manager, Park Ward and Co., Limited, London, was re-elected hon. treasurer.

A delegation from the Polish Ministry of Building and Construction, composed of three directors of the state-owned transport fleet, recently visited the A.E.C. works at Southall, where Mr. Eric Hollands, director and general manager of A.C.V. Sales, Limited, showed them the A.E.C. Dumptruk. Messrs. Rojek, Morawski and Skusiewicz are seen with Messrs. Hollands, J. U. Cooke (export manager, A.C.V. Sales) and A. Neville Stack

The death is announced of Alderman Charles H. Built, aged 76. He joined the former Worcester and District Electric Traction Co., Limited, in 1910, and was manager in 1917-28. On the abandonment of the trams he became divisional superintendent for the Midland "Red" company. He retired in 1938. He was a member of Worcester City Council (except for two short breaks) from 1935 and an alderman since 1949. Other appointments were: city chamberlain, 1943; high sheriff, 1950; mayor, 1955.

* * *

Safe-driving awards and awards of merit, earned under Road Operators' Safety Council auspices, were presented to Midland "Red" drivers and conducting staff at an evening function at the central works, Edgbaston, in Birmingham. Recipients concerned were those from garages at Lichfield and Sutton Coldfield; the awards related to the years 1956 and 1957. Those present were handed their awards by Councillor K. J. Hovers, D.F.C., of Sutton Coldfield, and the chairman for the evening was Mr. E. C. Tuff, chief engineer of Midland "Red." The awards presented covered periods up to 18 consecutive years of freedom from blameworthy accident.

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IMPORTANT CONTRACTS

Metropolitan Line Rolling Stock

IT was announced this week by London Transport that it had placed orders totalling over £4,000,000 for new trains for the Metropolitan Line. A total of 248 cars will replace the present outdated electric and steam compartment stock on the Amersham, Chesham and Watford services. The contract for the car bodies and bogies has been given to Cravens, Limited, of Sheffield. Orders for the motors and other equipment for the new trains have already been placed. The new trains will be of saloon type, but with 40 per cent more seats than other saloon cars now running on the Underground. All seats will be in facing pairs on each side of a central gangway to give comfort to longer journey passengers and there will be automatic sliding doors. There will also be adequate standing room to cope with the heavy peak-hour traffic between Finchley Road and Aldgate. The trains will have lightweight unpainted aluminium bodies with an all-silver finish, all-rubber suspension and fluorescent lighting. Use of aluminium panels and light alloy underframes and body parts will save over 5 tons of weight per car. The new rolling stock will be used to give an improved service to stations on the outer section of the Metropolitan Line with all eight-car trains instead of the present mixed six- and eight-car peak service. It is planned that the new trains should start coming into service towards the end of 1960 and all be running when the big scheme of improvements on the Metropolitan Line—including the electrification of the steam-operated section between Rickmansworth, Amersham and Chesham, and the four-tracking of the line from Harrow to beyond Moor Park—is finished in 1962.

More Vehicles for London Brick

One of A.E.C.'s oldest customers, the London Brick Co., Limited, recently placed an order for a further 44 Mercury and 10 Mammoth Major chassis.

G.E.C. Equipment for Mersey Dredger

The General Electric Co., Limited, has received an order to supply diesel-electric propulsion equipment for the new grab dredger, of 2,200 tons capacity, to be built by Ferguson Brothers (Port Glasgow), Limited, for the Mersey Docks and Harbour Board.

Albions for Liquid Transport

A contract to the value of over £110,000 has been placed by Bulwark Transport, Limited, of Chippenham, with Albion Motors, Limited, of Glasgow, for 24 Caledonian low-weight eight-wheeled chassis. They are to be fitted with tanks for the transport of various types of liquids. A special feature of the chassis will be the fitment of a third differential, complete with locking device, on the first rear axle. This is controlled from the driver's cab.

Radio Aids for New Tanker

A comprehensive range of Marconi Marine communications equipment and radio aids to navigation has been installed in the new tanker *Varicella*, of 33,000 tons. Built at Wallsend by Swan, Hunter and Wigham Richardson, Limited, for Shell Tankers, Limited, the new vessel employs a Globespan transmitter and Atalanta receiver for radiotelegraphy communication and a Reliance transmitter is fitted for emergency use. VHF equipment enables the *Varicella* to use port control and information services like that at Southampton. An auxiliaries rack houses a Seaguard auto alarm, Alert guard receiver, and automatic keying device, and a Salvita portable transmitter-receiver is carried for use in lifeboats. The radar equipment is Marconi Marine Radiolocator IVB, with a 15-in. display unit.

London Transport Station Contract

London Transport has placed a contract with William Old, Limited, of Harrow, for civil engineering work at Amersham (Metropolitan Line) and other stations. The value of the contract is more than £125,000 and the work is due for completion in 17 months.

Large Nigerian Contract

Richard Costain, Limited, in association with Raymond International, has been awarded a contract valued at £8,000,000 for the construction of a six-mile long breakwater and a separate island breakwater in the Bight of Bonin, Nigeria. The work will take six years to complete. The purpose of the breakwater is to protect a dredged channel off the mouth of the Escravos river, to permit ships with a draught of up to 20 ft. to enter the river on the way to the delta ports.

★

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

March 11—Iraq.—Ministry of Defence for one fork-lift TRUCK. Tenders to the President for the Central Foreign Purchase Committee, Ministry of Finance, Baghdad. (ESB/3743/59.)

March 12—Belgian Congo.—Ministry of Belgian Congo and Ruanda-Urundi for MOTOR VEHICLES, including eight 18-h.p. station wagons, six 1-ton open trucks, 30 1-ton trucks with cover, 16 ½-ton open trucks, 15 5-cwt. vans, 10 ½-ton vans, 17 3-ton long wheelbase chassis and cabs, 12 3-ton bodies with cover, six 5-ton long wheelbase chassis and cabs, 14 3-ton short wheelbase chassis and cabs, 67 3-ton tipping bodies with gear, 20 5-ton tipping bodies with gear, 12 6-ton tipping bodies with gear, six 38-seat buses, five 45-seat buses, 43 short wheelbase light cross-country vehicles, 26 ambulances for use in the bush, two 700-gal. tank wagons, two 1,100-gal. sprinklers. Tenders to Ministry of Belgian Congo and Ruanda-Urundi, Brussels. (ESB/1084/59.)

March 16—Australia.—South Australian Railways for 14 or 28 DIESEL ENGINES, together with control equipment, radiators, fans, filters, strainers, starting and cranking motor, converter fluid charging pump, and transmission equipment for suburban diesel railcars. Tenders to South Australian Railways Commissioner, Adelaide, South Australia. (ESB/2151/59.)

March 18.—Rhodesia and Nyasaland.—City of Bulawayo for one lorry-mounted CRANE to be capable of lifting free on wheels, unblocked, a 3½-ton load at a radius of 15 ft. through an arc of 180 deg. The length of the jib shall be not less than 25 ft. Tenders to Town Clerk, P.O. Box 591, Bulawayo. (ESB/5409/59.)

March 18—Portuguese East Africa.—Public Works Department for ROAD MAINTENANCE MACHINES and VEHICLES. Tenders to be through local representatives. (ESB/2197/59.)

March 20—Union of South Africa.—Transvaal Provincial Administration for ½-ton light delivery VANS, 1-ton light delivery VANS, 1½-ton light delivery VANS, ½-ton sedan delivery VANS, ½-ton panel VANS and 1-ton panel VANS. Tenders to The Chairman, Transvaal Provincial Tender Board, P.O. Box 1040, Pretoria. (ESB/4812/59.)

SHIPPING AND SHIPBUILDING

Notice to British Yards

SOME comments on the performance of British yards were offered last week by Mr. R. A. Vestey, chairman of the Blue Star Line, Limited, at the launch from the Queen's Yard, Belfast, of Harland and Wolff, Limited, of the 11,000-ton gross refrigerated cargo liner *Ulster Star*. He said the ship was costing a great deal more than she would have done if built on the Continent, and the delivery date was months overdue. British shipowners, he went on, would much prefer to build ships in Great Britain or Northern Ireland, but they were in competition with foreign shipowners. "We know the taxation difficulties of British shipowners, but if the cost of the ship is going to be so much more than our competitors pay we cannot compete and that means that we cannot place orders for ships over here. I hope it will not be long before those who control the shipyards and those who work in them will get together and find some way of getting costs down, the time of building shortened and the delivery dates up to time. There must also be fixed costs for ships, as is done in Japan and Germany," said Mr. Vestey.

Noting that the launch of the *Ulster Star* could have taken place last November but had to be postponed owing to the protracted platers' strike in the spring of last year, Sir Frederick Rebbeck, chairman of the builders, had this to say: "It is dreadful where you have a situation where men go on strike for something that they obviously cannot obtain. We cannot make a breach in national arrangements and still exist."

By Boat and Rail

EAGLE STEAMERS has revived a prewar facility—the issue of combined boat and rail day excursion tickets between London and Margate. These tickets will be available on Mondays, Tuesdays, Wednesdays and Thursdays throughout the 1959 summer season. Passengers will leave on the *Royal Sovereign* from Tower Pier at 9 a.m. arriving at Margate at 2 p.m. They can return by boat at 4 p.m. or by any train that day, at an additional fare of 1s. 6d. The fast electric train service from Margate starts in June.

German Yards May Offer Easier Credit

IT is believed that West German yards are to be authorised to accept payment for new tonnage on an instalment basis in order to meet foreign competition, notably from Japan. Hitherto the standard terms for payment have been 20 per cent on signing of the contract, up to 60 per cent on laying the keel and the remainder on delivery of the vessel. It is now proposed that 20 per cent of building costs should be paid on delivery of the ship and the remainder spread over the following three to five years.

Nylon Barge Tank in Service

CARRYING a cargo of 10,000 gal. of kerosene, weighing about 40 tons, the flexible barge being developed under the sponsorship of the National Research Development Corporation made its first commercial voyage last week. It delivered the kerosene from the Esso refinery at Fawley to Newport, Isle of Wight without incident. An envelope of nylon and synthetic rubber, the barge was towed by a 45-h.p. launch and completed the 10-mile voyage in two hours, after which the cargo was pumped into storage tanks in 65 min. It was then filled with CO_2 and towed back. The intention for commercial use is to wind the vessel on to a reel and stow, or tow it after discharge of the cargo. The company formed to develop this form of bulk transport is entitled Dracone Developments, Limited.

Revival at Ramsgate

RECENT arrival of the German merchant ship *Aphaia*, with a cargo of Volkswagen cars from Bremerhaven, and the news that the ship will make regular journeys to the port, suggests a brighter future for it. The ship carries about 80 cars, which are dispatched to various parts of the country. Another new import service is expected with the John Cockerill Line operating to Ramsgate. Weekly cargoes of wine are planned.

New Services to Montreal

FROM March 25, Canadian Pacific Steamships will operate a weekly freight service from London to Montreal. Thereafter on every Wednesday throughout the St. Lawrence season one of the Beaver ships of Canadian Pacific's fleet of fast freighters will sail for Montreal. The new augmented service will also provide three sailings a month from Antwerp, a regular fortnightly service from Le Havre and a monthly sailing from Hamburg—Bremen. The Hamburg Amerika Line and the Norddeutscher Lloyd will run a joint weekly express service to the Great Lakes when the St. Lawrence Seaway is open. The ships will have accommodation for passengers.

OFFICIAL NOTICE

RURAL DISTRICT COUNCIL OF DARTFORD

APPOINTMENT OF
PUBLIC CLEANSING AND TRANSPORT OFFICER

APPLICATIONS are invited for the post of Public Cleansing and Transport Officer. Salary within Grade APT III plus £30 per annum London weighting (£875 to £1,055 per annum). Commencing salary according to qualifications and experience. Preference will be given to Applicants who hold the Testamur of the Institute of Public Cleansing, or who are Corporate Members of the Institute of Transport. A car will be provided for use on official duties. Housing needs will be considered. Form of application, which may be obtained from the Engineer and Surveyor at the address below, should be returned to him on or before March 21, 1959.

J. H. MILBURN,
Clerk to the Council.

White Oak,
Swanley, Kent.

METRO-CAMMELL

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